# Table of Contents

**The Enduring Influence of Fascism on Italian Social Identity**  
Daniel Acheson-Brown, Elizabeth Self, Eastern New Mexico University  
1

**World Regional and Cultural Footprints and Environmental Sustainability: A Summary of Socioeconomic Determinants**  
Ebenezer O. Aka, Morehouse College  
13

**Is All Politics Local? Latino Voters in Joliet, Illinois**  
Tanya Arias, Julie Victa, University of Saint Francis  
38

**The Student Thinking Lens and Inquiry**  
Moira Baldwin, Teresa LeSage-Clements, Barba Aldis Patton  
University of Houston – Victoria  
53

**Professionalism and the Internet: The Challenge of Promoting a Professional Identity and Maintaining Personal Privacy**  
Randy Basham, The University of Texas at Arlington  
56

**Framing the Debate Over State Constitutional Amendment Proposals, 2014: The Case of Tennessee**  
Christopher Baxter, The University of Tennessee at Martin  
70

**A King Sized Problem!**  
Sue Burum, Minnesota State University - Mankato  
80

**Online Degrees Versus Traditional: Is There a Hiring Bias – How Can Higher Education Leadership Help in this Dilemma?**  
Sandy Cortez-Rucker, Vance Cortez-Rucker, Lamar University  
91

**A Pre-Service Teacher’s Experience Implementing Engineering Practices in a High School Physics Class**  
Comfort Ateh, Elizabeth DeGaray, Providence College  
100

**STEM in the Park: A Model Program that Provides Roots for STEM Learning**  
Emilio Duran, Lena Ballone Duran, Bowling Green State University  
108

**Patenting Life: GMO’s**  
Kelsey Gibbs, Central Washington University  
116
Environmental Protection:
Recovery and Development in Liuzhou City
Hong He, Central Washington University 123

Sustainable Local Agriculture to Support Liuzhou’s Metropolitan Complex
Xiaojie Huang 129

An Inquiry into the International Distribution of Anti-Environmentalism Sentiment
Allen F. Ketcham, Texas A & M University
Jeffrey T. Schulz, Central Community College 135

Opportunities for Nebraska Business in India
Vani V. Kotcherlakota, Michael Lundeen,
Nebraska Department of Economic Development 153

Ethics in Education: Historical influence of Religious Elementary Schools
Courtney Kulcak, Barba Aldis Patton, Teresa LeSage-Clements, Moira Baldwin
University of Houston - Victoria 166

Some Teacher Professional Attitudes are Ethically Treacherous:
Where are the Lines Drawn in the Sand?
Teresa LeSage-Clements, Moira J. Baldwin, Barba Aldis Patton,
University of Houston - Victoria 169

Some Children are Left Behind:
Teacher Retention & Attrition Impact on Student Achievement Education Work Experience Matters
Teresa LeSage-Clements, Barba Aldis Patton, Moira J. Baldwin,
University of Houston - Victoria 172

New Thinking About Urban Growth: Liujiang County
Lihua Li, Central Washington University 179

By The Numbers:
How Message Framing Affects Opinions of National Statistics
Colleen McDonough, Maria T. de Gordon, Neumann University 186

Coastal Wetlands Landcover of New Orleans
Andrew Meinhold, Independent Scholar 203

Are We Losing It? What Constitutes Ethical Behavior?
Barba Aldis Patton, Courtney Kulcak, Teresa LeSage-Clements, Moira Baldwin,
University of Houston - Victoria 209

Taking Vocabulary in the Classroom to a Higher Level: Not a Simple Task
Barba Aldis Patton, Teresa LeSage-Clements, Moira Baldwin
Bellingham Coal Trains and the Gateway Pacific Terminal
Matthew Prpich, Central Washington University

Governmental Responsibility for Public Health:
The Road Traveled and What Lies Ahead in Disease Control and Prevention Centers System in China
Zhenghao Pu, Central Washington University

Application and Implementation of Authentic Assessment
Clinton Rau, Beverly A. Doyle, Creighton University

Understanding How Three Key Events Impacted the Presidential Legacy of Franklin Pierce
Darrial Reynolds, South Texas College

A Face Lift to Teaching Science Based on the Next Generation Science Standards: Case of an Instructional Unit on Biotechnology
Natalie Sabia, Comfort Ateh, Providence College

Vietnam and the U.S.A.: Immigration Politics
Binh Vo, Central Washington University

An Analysis of the “Use It or Lose It” Policy in Eastern Washington
Taylor Wilkinson, Central Washington University

A Prosperous Hispanic Population Equates to a Robust America
Edgar Zamora, Central Washington University

Revitalization of the Urban Core
Huanhuan Zeng, Central Washington University
The Enduring Influence of Fascism on Italian Social Identity

Daniel Acheson-Brown
Elizabeth Self
Eastern New Mexico University
Introduction

Benito Mussolini, dictator of Italy, was publicly revered as “Il Duce,” from 1922 throughout the fascist era. His execution in 1945, and the public hanging of his corpse at a petrol station in Milan, showed that he was no longer revered but despised. Italy lay in ruins. The Axis powers were soon defeated and their monstrous extermination policies were fully revealed.

Yet today, in some quarters, the memory of Mussolini is once again revered. In the small town of his birth, Predappio, his grave is often visited by people who give the fascist salute. The streets are lined with vendors selling Mussolini paraphernalia. Thousands purchase calendars with a picture of Mussolini for every month (Schlamp, 2013). This provides a subtle reminder that each month, Mussolini is the hero for the present, not just a disastrous past—in fact, the past is re-interpreted as victorious rather than disastrous. During informal interviews with Italians in Pisa, Rome, and Sicily, conducted during 2013 and 2014, the first author often heard of a desire for a leader like Mussolini, “to put people back to work, but not to make war.” There was also nostalgia for the police state, which, although it had its drawbacks, ensured that “nobody had to lock their doors in the days of Il Duce.”

As dictator, Mussolini ordered the invasion of Ethiopia in 1935, authorizing mustard gas to be dropped indiscriminately from the air. Internally, he sent 13,000 into exile in poverty-stricken villages in southern Italy (Evans, 2013). But public figures, such as Italy’s ex-Prime Minister Silvio Berlusconi, seek to rewrite history by softening the memory of Mussolini and fascism. Berlusconi claimed in 2003 that “Mussolini did not murder anyone. Mussolini sent people on vacation to confine them” (Farrell, 2013).

At Predappio, one can also purchase a beer mug with the slogan, “Boia chi mollare.” The origins of this phrase are uncertain, but it was definitely used by the Italian soldiers known as “Arditi,” or “daring ones,” to rally each other during their front-line attacks during World War I. The slogan can be literally translated as “He’s an executioner, who desists [fighting].” In other words, if a soldier stops fighting in support of his comrades, he might as well be killing them. The verb mollare, to desist, leave off, or relax, is followed in the dictionary by the adjective molle, which means soft, effeminate, flabby, or even flaccid (Spinelli, 1965). So the guilt-inducing battle cry has connotations not only of murder, but also of failure to be masculine. It is no coincidence that Mussolini adopted this as a fascist motto. As we shall see, fascist propaganda repeatedly exhorted males to live up to a hypermasculine ideal that sacrificed their own human needs to the service of the state.

Believing in the attainability of an ideal creates a psychological readiness to strive to meet impossible demands—what psychologist Karen Horney called “the tyranny of the should” (Horney, 1991, p. 64). The inevitable failure to live up to these demands keeps an individual off-balance, since they are not recognized as impossible. The fault, we think, is not in the demands, but in ourselves.

In a totalitarian state, this idealization can produce a percentage of the populace that willingly conforms to the behavioral prescriptions issued by the state and modeled by state leaders—and these prescriptions can be made to serve the designs of those in power, especially their designs for expansion and empire. This was the case with the Italian fascist regime of Benito Mussolini. Fascist propaganda and policies were aimed at the creation of a “new man,” who would be an organic component of a “new Italy.”
And yet at the same time the new man would be a return to the natural man, a man whose natural function was to kill in war. Mussolini famously stated that “war is to man as maternity is to woman” (Benedetti, 2007, p. 58). Such a man, restored to his true bellicose nature, would be a real Italian, like the glorious soldiers of ancient Rome. Invoking a golden past (that never was) was intended to inspire Italian men to participate in the conquest of territory for the rightful return of the Roman Empire.

Within fascism, the hypermasculine ideal had several components. Males should be, above all, violent, militaristic, and aggressive. The slogan “Believe, Obey, Fight,” was widespread, implying that thinking and questioning were undesirable. Instead, unquestioning, unhesitating action was needed. (This slogan is also inscribed on beer mugs in Predappio today.) Energetic action, a dynamism associated with youth, would culminate in violence whenever necessary, but it was always necessary to be prepared for it.

Therefore, fascist Italy emphasized sport and physical fitness. The fascist regime nationalized the body through sports and physical fitness for imperialism, not for health or any intrinsic value, but rather in the service of the state. Sports and physical education were the primary focus of the fascist school system: “Proud in his uniform, the Italian man of fascism was involved in military discipline since youth, encouraged to build his muscles through morning athletic exercises, and immersed in a spoken and body language that was military, uncouth and virile” (Bellassai, 2007, p. 320).

Mussolini was seen as a robust male: an active male in a world of contrasting dull, fat, old inactive males. He deliberately cultivated this image by frequently posing for photos shirtless or in swimming trunks. In this way he appeared to be the opposite of the lethargic, self-satisfied Liberal male, who represented the rot and corruption of the status quo. The weak Liberals could be intimidated, and were soon pushed to the side by the energetic fascists.

“Mussolini was the first contemporary head of state to vaunt his sexuality” wrote Victoria De Grazia (1992, p. 205). Italian women wrote him love letters, and his valet Quinto Navarra reported that while Mussolini was in Rome, at least one woman a day visited him (Olla, 2011). Mussolini bragged to his last mistress, Clara Petacci, “There was a time when I had fourteen women on the go and would see three or four of them every evening” (Olla, 2011, p. 356).

An alternative reading of Mussolini’s virile display might suggest that his public speeches addressed to women were designed less to persuade women to do voluntarily what his less flamboyant decrees coerced them to do than to demonstrate one aspect of his virility to quite another addressee: other men….. (Spackman, 1996, p. 27)

Boasting about heterosexual conquests, in this view, becomes less a re-living of an enjoyable experience than a reassurance to oneself and other men that one is not homosexual or effeminate, and that in fact one is indifferent to women. Bellassai explained that for fascists, “real men do not need women; rather they disdainfully distance themselves from them” (2007, p. 323).
We would argue that indifference *in itself* is another component of the hypermasculine ideal. Not only indifference to women, but indifference to pain or the threat of harm, was held up as a standard for the “new man.” Readiness to fight means that one cannot ponder the risk—one must act, energetically, even impulsively. In that sense one is indifferent not only to others but to oneself—indifferent to one’s rational, self-protective prefrontal cortex which weighs options and risks against the urges of the more primitive, emotion-generating limbic system in the brain.¹

Not coincidentally, to react in this way is to be exactly what the fascist state requires: the aggressive soldier who sacrifices his own life. Ultimately, the male must be indifferent to whatever happens. He must remain as he was programmed by the fascist youth organizations. This pre-planned, pre-created fighter will not be influenced by any events, external or internal, and will therefore continue to serve the fascist regime.

Bellassai called this hypermasculinity “a virile ideal so absolute as to be practically unfeasible for most flesh and blood men” (2007, p. 326), supporting Horney’s (1991) contention that idealized “shoulds” are impossible to achieve. Insightfully, Horney compared the internal psychic turmoil that this entails to external political oppression:

> The inner dictates, exactly like political tyranny in a police state, operate with a *supreme disregard for the person’s own psychic condition*—for what he can feel or do as he is at present….He simply issues an absolute order to himself, denying or overriding the fact of his existing vulnerability. (Horney, 1991, p. 67)

When the inner dictates actually come *from* the external police state, it is even more difficult to challenge them.

**World War I Left Italians Fatherless**

Hypermasculinity was a useful ploy under the conditions in Italy after World War I. The war had taken a severe toll on Italian society—killing 650,000 and injuring 947,000, with another 600,000 listed as prisoners of war or missing. Clearly many fathers were killed, wounded, or missing in action; some of them frozen in the White Mountain war (the latter has been revealed as the northern mountain snows have melted due to recent climate change; Spinney, 2014).

An important fact of Italian history is that Italy was basically at war from 1911 to 1945 with very little pause. First there was the Italo-Turko War in Libya, then World War I from 1915 to 1918. In addition, there was the ongoing suppression of Somali resistance to Italian rule, as well as the war in Libya until 1932, then the invasion of Ethiopia in 1935. This was followed by the Spanish Civil War intervention from 1936 to 1939, and finally the build-up to World War II and the war itself. The burden this placed on Italian society was immense, not only in military losses but in psychological stress. Those who fought, those who anticipated fighting, and anyone close to the soldiers or potential soldiers—all were affected by the endless wars. Thus it is important to note that the domestic consequences of hypermasculine imperialism were felt not only by the male combatants but by women and children as well.

But what role was played in all this by “the leading man?” What was the nature of the interactions between *Il Duce* (the persona) and the social-psychological desires of
the populace? Why was there significant resonance between the leader and the people?

We propose that a significant portion of any given populace is in search of their desired ideal father—a desire that was intensified in Italy because of the severe losses of World War I, wherein huge numbers of males were killed or wounded physically and psychologically. The fear of economic dispossession by the rising Left in post-World War I resulted in a call for the protector/rebuilder. In this context Italians (like Germans with Hitler) were looking for anti-Marxist figures to replace their wounded, dead fathers. Once the regime was established, the project of building a new Rome could be more explicitly introduced by the Fascist regime, and the appeal to youth was central. Youth need to become a part of something big, epic. They were taught that life's meaning would come from belonging to the project for a new Roman Empire. Italy would have its place in the sun.

Thus, the model for hypermasculinity is the perfect, ideal Father. Fathers are powerful and protective, from the view of the child. Adults are more cynical; they realize that fathers can be both protective and unpredictably abusive, both just and unjust—hence the focus on youth as a target for propaganda. The key was to substitute the political leader as the male role model, and this idea was exploited by the Italian Fascist regime to capture the youth. Young males, it was desired by the regime, would see Mussolini as the model male to emulate. To them, Mussolini projected an image of the dynamic leader who would clean house, sweeping out all the old stale cobwebs of the weak Liberal-Monarchy. In that regard, he was contrasted to the small King Vittorio Emanuelle III, who exemplified the "old" order lacking in dynamism.

With this emphasis on acting, not deliberating, Mussolini lacked critical thinking skills; he was prone to wishful thinking and denial. It was this tendency to denial which led him to insist to his incredulous advisors that a war with England would be over by September, 1940 (Collier, 1971). Horney (1991, p. 68) would have identified this wishful thinking as stemming from the core premise that "nothing should be, or is, impossible for oneself."

These points frame the larger political-economic context from which we can understand conditions facilitative of fascistic movements. Economic deprivation leads to a call for the man on a white horse. The leader is the philosopher-king and the rescuer. Thus the idealized Father will be the “fixer” of problems, the protector and the economic provider. Convincing a significant portion of the public to will themselves over to the leader is not as difficult as one might imagine, in the context of socio-economic crises. Such crises, in addition to the impact of World War I and the Bolshevik scare, were key conditions that facilitated the King’s appointment of Mussolini as Prime Minister in 1922.

Traditionalism evoking the ancient Roman Empire

With the guidance of his mistress, Margherita Sarfatti, Mussolini refined a personality cult designed to project the new Duce as the rebuilder of Rome. Ironically, in the context of all of the emphasis on youth and energy, fascism simultaneously promoted a return to traditionalism and to the memory of the golden past (that never existed, except in its remembered idealization).

One of the dangers to Italian society, the fascists claimed, was the presence of communist women who were liberated from all traditional norms. The revolutionary Left was portrayed as a movement of war-shirking weak males and dangerous, armed
aggressive females. The very fabric of society would be ripped to shreds if these forces were allowed to prevail. For fascism, society was viewed as an organic whole. The organic view of the state holds that individual persons are cells of the larger living state. The brain is the leadership. The cells have the common need of being governed by a healthy, strong “nerve center,” the brain. The individual’s role in the organic fascist state was to match his/her talents to the grand military-political strategy of building the “Third Rome.” (First was the Roman Empire, second the Risorgimento, third was to be fascism.)

Thus, a return to the “glory days” of the Roman Empire was envisioned as a solution to the problems of modernism. And since it was an empire, it was necessary to expand Italy’s reach: hence, the invasion of Ethiopia in 1935, an example of hypermasculine action. Il Duce was determined to acquire an Italian Roman Empire and avenge the humiliating defeat of Italy by Ethiopia, at Adowa in 1896. If Ethiopia under Haile Selassie would not be co-opted into the Italian Empire peacefully, then Italian forces would conquer it. This invasion would bring Italy into grand power status. In preparation for the war, Mussolini declared every male Italian citizen a soldier, further militarizing the educational system for boys as young as eight years of age.

The war lasted seven months, ending in an Italian victory by May 1936. Mussolini claimed it as his personal achievement, and although the initial announcement of war in October 1935 had not been very popular with the Italian public at large, with the victory in May Mussolini regained some lost popularity. This was Mussolini’s high point, for he had demonstrated the regime’s hypermasculinity by successfully dominating Ethiopia.

In the course of their brutal occupation, Italian forces simply created new enemies. Occupied Ethiopia was raging with resistance from 1936–1941. Il Duce’s high point rapidly turned into a nightmare of additional costs. The hypermasculine hubris of Mussolini may have increased as his own energy began to flag. Soon he ordered Italian troops into Spain for another military adventure.²

Perpetuating the hypermasculine ideal today

Remembering a glorious Roman empire, valorizing the soldiers of World War I, and idolizing Mussolini all depart from the more complex human reality that is Italian history. These false memories endure today, demanding idealized gender role behavior from males who cannot live up to the impossible standards, yet who believe that others can, and that somehow they can too, if they just try harder. The psychological cost of this is incalculable. Yet it functions, just as it did in the fascist era, to place the blame for Italy’s domestic and foreign relations problems on its existing government, or at least, members of the government who are seen as too timid (and effeminate) to act boldly.

Silvio Berlusconi took advantage of this discontent to propel himself to power in 1994, in the wake of the “Clean Hands” anti-corruption investigations that had so discredited the major political parties in Italy that the electorate was ready for a Prime Minister with a completely new face. He claimed that he was that new face, and that he would create a “new Italian miracle” by slashing taxes and creating one million new jobs (Krempl, 1999). Like Mussolini, he played on people’s fears that the communists could take power. It didn’t hurt that his media company, Fininvest, owned three television stations and was able to present his message (and that of his new party, the “Forza Italia”) to the Italian electorate:
...the three Fininvest stations gave FI candidates far more opportunities to speak for themselves than they did any other party. Conversely, the candidates of the former DC center (PPI and Patto), from which Berlusconi hoped to draw most of his votes, were almost absent from the screen, receiving less than 10 percent of the time candidates were allowed to speak for themselves. The three RAI channels, in sharp contrast, were much more balanced in their coverage. (Marletti & Roncarolo, 2000, p. 226)

However, the new Italian miracle didn't materialize, and Berlusconi’s coalition collapsed in 1995. But he was able to return to power two more times. He served as Prime Minister from 2001 to 2006. In 2008 he announced the transformation of Forza Italia into a new party, the “People of Freedom” party, once again becoming the Prime Minister for another three years, from 2008 to 2011.

Berlusconi’s admiration of Mussolini extended to rewriting history by claiming that “Mussolini never killed anyone,” as noted above. In 2013, at a Milan ceremony commemorating Holocaust victims, Berlusconi implied that Germany imposed the idea of anti-semitism on the unwilling Italian fascists, and stated, “The racial laws are the worst fault of Mussolini, who in so many other aspects, did good” (“Silvio Berlusconi praises Mussolini,” 2013).

Not only did Berlusconi project the image of a man of action, as Mussolini had, and as a protector against communism, but he also mimicked the virility and misogyny that had been part of Mussolini’s hypermasculinity. In 2011, a wiretap investigation revealed conversations between Berlusconi and Gianpaolo Tarantini, who was charged with procuring women for the Prime Minister in 2009. "Last night I had a queue outside the door of the bedroom… There were 11 … I only did eight because I could not do it anymore," Berlusconi bragged to Tarantini on the telephone (Kington, 2011). This recalls Mussolini’s boast to his mistress, Clara Petacci, that he had four women in one night. In fact, Berlusconi has openly compared himself to Mussolini. When Berlusconi read Mussolini’s letters to Petacci, he commented “I have to say…that I see myself in many aspects of these letters” (Berlusconi, quoted in Evans, 2013).

Berlusconi often held parties with showgirls and models, and he appointed some of them to political office while in power. Criticized for his conduct (even by his then-wife, who demanded an apology for his flirting), he defended himself by saying “It’s better to be fond of pretty girls than to be gay” (“Berlusconi: Meglio appassionato,” 2010). Now divorced and free to marry his fiancée, Francesca Pascale, who is 50 years younger than he, Berlusconi was convicted in June 2013 of paying for sex with a teenaged dancer, Karima El Mahroug. However, he appealed this conviction, and a recent ruling by the Sixth Chamber of the Supreme Court of Italy upheld his appeal. Predictably, Berlusconi held a party. He announced to the press "this absolution has healed all fractures, even in the party [his party Forza Italia]: we must stay united and we will win. We have to set apart all disputes and misunderstandings of the past few months” (“Berlusconi ci scherza”, 2015). While these words might be taken to imply a political comeback of Berlusconi himself, this is unlikely.
Italians interviewed by the first author during 2013 and 2014 stated that the sex scandals were actually a media ploy to distract from the real crimes of corruption that enveloped not only Berlusconi, but “a spoiled political class of senators and politicians.” These Italians saw Berlusconi as lacking the energy of Mussolini, merely a “mini-Duce,” who pretended to fix things with a new approach, but would not actually devote resources to doing so.

Instead of a comeback by Berlusconi, what is worrying is that the Italian public is so disaffected with politics that it is primed for anti-government rhetoric, just as it was in Mussolini’s day. This is why the Five Star Movement, which explicitly avoids being named as a party, captured twenty-five percent of the national vote in the February 2013 elections. Its leader, comedian Beppe Grillo, explained the victory as the start of a “war of generations” and, referring to the established party leaders, said that “They are all losers, they’ve been there for 25 to 30 years and they’ve led this country to catastrophe” (Grillo, quoted in “Profile: Beppe Grillo,” 2013). Grillo, who was convicted of manslaughter in 1980, cannot hold office in Italy’s parliament. But several of those in his movement have taken seats in the Chamber of Deputies and the Senate. The movement is not only anti-party, but anti-program. Grillo has been criticized for evading questions on what his movement stands for (“Profile: Beppe Grillo,” 2013). Like Mussolini’s (and Berlusconi’s) populism, its main agenda is to be against, not for:

As with all forms of populism, but notably in its postmodern version, truth and myth are often entwined, while history is overlooked or rewritten….Despite grandiose language invoking “the people” against bastions of bureaucracy and officialdom, populism reinforces power elites and above all undermines politics. In fact, as Taggart suggests, populism is only “reluctantly political,” and is “a reaction against the ideas, institutions and practices of representative politics.” (Andrews, 2005, p. 20)

Jan Fleischhauer, writing in Der Spiegel, explicitly compared Grillo to Mussolini:

Mussolini also claimed that his fascist group "Fasci di Combattimento" was not a party but a movement, because political parties were the problem, not the solution. He too saw himself and his followers as cleansers who would finally clean up the frail and corrupt system. And he likewise claimed to represent the youth and freethinkers, those who no longer believed in programs and statutes but in rejuvenating action. (Fleischhauer, 2013)

In January 2014, the call for action against the institutions of representative politics was answered in parliament when Five Star members protested against a bill to bail out the Bank of Italy. They were filibustering against the bill when Laura Boldrini, speaker of the Chamber of Deputies, applied a rarely used “guillotine” rule to cut off their speeches. In response they climbed on the benches that were “reserved for government,” prompting the next Prime Minister, Matteo Renzi, (then leader of the
Democratic Party), to warn “These acts are like those used by fascist squads” (Mackenzie, 2014a). Renzi took office a little less than a month later. The ex-mayor of Florence has also called for “a break with the past” (“Anti-elite activist,” 2014), and has been nicknamed “The Destroyer.”

Possibly because it lacks a cohesive political agenda, the Five Star Party has suffered from infighting and has lost influence in recent months (Mackenzie, 2014b). In November, 2014, it polled only 13 percent of the vote in regional elections in Calabria, and only 5 percent in Emilia-Romagna. Berlusconi, ever the political phoenix, won a higher approval rating than Grillo. He commented that “Grillo’s tired. I’m in better form than ever” (Mackenzie, 2014b).

But the newest hypermasculine “man of action” is the young leader of the right wing party *Lega Nord*, Matteo Salvini. In November 2014, an Ipsos poll showed Salvini’s approval vaulting 5 points from 28% to 33% after surprising gains for the party in Emilia-Romagna, long a stronghold of the Left. While the *Lega Nord* (and Salvini himself) used to scorn the southern regions of Italy and even called for secession of the north at one time, they have new tactics: anti-government and anti-immigrant. In Rome during February 2015 the *Lega Nord* held a political protest against immigration, attended by thousands (“Italy’s anti-immigrant movement,” 2015). This approach is likely to appeal to many citizens of southern Italy who see themselves as overwhelmed by an influx of immigrants from North Africa. Like Mussolini’s fascist regime, which some still admire for its ability to unite Italy, the *Lega Nord’s* strategy may unite some residents of northern and southern Italy in mutual hatred of a scapegoated group. “In Italy the public think 30% are immigrants when it’s actually 7%,” according to an Ipsos-Mori poll (“Perceptions are not reality,” 2014).

At the same protest, Salvini criticized Renzi’s government, portraying himself, as others had done before him, as being a fresh face who would not tolerate political stagnation. But a Roman leftist politician said "The League governed for years with (ex-premier Silvio) Berlusconi and now Salvini wants to act like he’s new to politics. These men are dangerous and they must be stopped" (“Salvini makes waves,” 2015).

Repeating the image of hypermasculine virility that was so successful for Mussolini and Berlusconi, Salvini has also emphasized his sexuality by posing shirtless for an Italian magazine (Mackenzie, 2014c). In addition, he went dancing with France’s far-right National Front leader Marine Le Pen, who confessed that he had “put her in ecstasies” (Sanderson & Politi, 2014).

**Conclusion**

Thus, the hypermasculine ideal of action without reflection, indifferent to every human need, whether one’s own or that of others, lives on in Italian politics. Mussolini, Berlusconi the singer, Grillo the comedian, Renzi “the destroyer,” and Salvini-the-shirtless, each gained power by exploiting the Italian public’s discontent with the ineffectiveness of its parliament. Each based his politics on “*lo spettacolo*”—the show. Audiences responded to their display of aggressive action, the idealization of the male way of solving problems. It is comforting to believe that the dynamic father has finally arrived. But as we have shown, there is a psychological and political cost to this fantasy. The continued vaunting of the hypermasculine ideal as though it were attainable is devastating to individual Italian males, hemmed in as they are by
unemployment, damage to the environment, and economic instability. To solve their problems, even if they do not turn to the squadristi violence of the past, they have before them the recommended model of aggression as a solution—and females as objects to be discounted. The inevitable failure of this model means that once again Italian males are suffering under Horney’s “tyranny of the should” (Horney, 1991, p. 67).

Horney warned that those who try to comply with this tyranny delude themselves that nothing should be impossible. The failure to recognize that some things are impossible also has consequences on a societal level. Impatience with the political system arises from the belief that all public problems must be resolvable. As in private life, the hypermasculine ideal is not a solution. To believe that it has ever been is to remember a lie.

Notes
1. The Futurists, such as Martinelli, actively promoted this aggression and indifference.
2. The memory of the Ethiopian war, as well as the counter-insurgency in Libya (1911–1932) is hugely distorted by the 2012 memorialization of Field Marshal Rodolfo Graziani in the town of Affile, Italy, where he spent his childhood. Italians and Ethiopians joined together in protests against this valorization of “The butcher of Ethiopia” also known as “The butcher of Fezzan” (in Libya). However, the mayor of Affile categorized these protests as “idle chatter” (Villarreal, 2012).
3. RAI is the state-owned television network.
4. Other nations experiencing severe problems have also turned to hypermasculinity. For example, in Russia, Vladimir Putin vaunts his masculine persona as part of a propaganda campaign to reinforce Russian nationalism; like Mussolini and Salvini, he too has posed shirtless for the press.

References


World Regional and Cultural Footprints and Environmental Sustainability: A Summary of Socioeconomic Determinants

*Ebenezer O. Aka*
*Morehouse College*
Introduction

The earth is home to a variety of plants and animals and other living things referred to as biodiversity. Biodiversity provides many of the ecological resources and services for the anthropocentric economy, thus it is threatened by economic sectors in the aggregate (Czech et al., 2000). A fundamental conflict exists between economic growth and biodiversity conservation. To sustain livelihoods and to reduce poverty whilst conserving the earth's resources are major global challenges. Human use of the environment is the largest contributor to habitat modification and ecosystem loss (Goudie, 2000; World Resources Institute, 2000). As the human economy expands, natural capital (resources) is reallocated from non-human uses to the human economy (Czech, 2000a). The manufacturing and service sector of the human economy are responsible for the habitat and ecosystem losses. In the absence of anthropogenic threat, all natural capital is available as habitat for non-human species. Economic growth and development as a measure of gross domestic product (GDP) reflects an increase in the production and consumption of goods and services. The proportion of natural capital allocated to human economy increases with GDP, while the proportion of national capital associated to non-human habitats decreases with GDP (The Wildlife Society, 2003). Growth, according to Zovanyi (2005), constitutes unsustainable behavior because it is incapable of being continued or sustained indefinitely. Growth is blamed for such costly destructive development patterns as urban sprawl, loss of prime agricultural land and ecosystem loss, inefficient provision of public facilities and services, escalating housing prices, pervasive environmental degradation, and loss of community character. Therefore, "smart growth" as alternative to "dumb growth" (Chen, 2000; Lorentz and Shaw, 2000) should be managed to simultaneously confront social sustainability, economic sustainability, and environmental sustainability.

Sustainability refers to the ability of a system to continue and maintain a production level or quality of life for future generations. It means living in material comfort and peacefully with each other within the means of nature (Wackernagel and Rees, 1996). Sustainable development implies that a society should balance social equity, economic prosperity, and environmental integrity (Krizek and Power, 1996). Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their needs (World Commission on Environment and Development, 1987). To balance economic and environmental goals, economic growth and development should be sustainable and imply full consideration of environmental factors.

Human societies and their places are the products of environmental, economic, political, and cultural processes, which may work across scales from the local to global. The history of civilization is also the history of ecological degradation and crisis (Chew, 2001). Of course, the world is currently utilizing nature beyond its capacity to renew and regenerate indefinitely. In fact, humankind has consistently remained in a state of "obligate dependence" on the productivity and life support services of the ecosphere, despite the mediating technological sophistication (Rees, 1990). The global modes of production and accumulation are intimately linked to environmental degradation. Market expansion through recent globalization is threatening human race with environmental disasters, and also creating conflict among three essential aims: prosperity, equity, and ecological sustainability (Jorgenson and Kick, 2003). Perhaps,
this is what Anderson (2006) called “global ethical trilemma,” which are production, consumption, and their consequent environmental degradation.

The pressing issues of our time are the population growth and increasing economic growth, as they interact with resource consumption rates, pushing the world toward global ecological collapse. Thus, population and consumption are the major environmental degradation factors, and resource consumption rates have increased at a faster pace in some world regions than population size in recent decades. In fact, affluence and population size (growth) have been hypothesized to be the primary drivers of human-caused environmental stressors or impacts (Earth Observatory News, 2007). Dietz et al (2007) found that increased affluence exacerbates environmental impacts and, when combined with population growth will substantially increase the human footprint on the planet. Ecological footprint is a measure of the amount of nature it takes to sustain a given population over a course of one year. It is a national-level measurement that quantifies how much land and water are required to produce the commodities consumed and assimilate the waste by them. It actually measures how consumption may affect the environment, thus the concept of ecological footprint analysis (Wackernagel and Rees, 1996; Wackernagel and Silverstein, 2000; Wackernagel et al, 2000; Jorgenson, 2003; Redefining Progress, 2005; Earth Observatory News, 2007). Ecological footprint analysis addresses the issue of human biological metabolism and humanity’s industrial metabolism (Rees, 2012); and compares the humanity’s ecological footprint with the earth’s available capacity. It attempts to operationalize the concept of carrying capacity and sustainability. Carrying capacity is the maximum number of individuals of a defined species that a given environment can support over the long term (Hardin, 1991), or the environment’s maximum persistently supportable load (Catton, 1986). In a modern capitalist world system economy, different countries, regions, and cultures have different consumption patterns, different ecological footprints, and different ecological balances.

**Purpose of Study**

Limited studies exist that dealt with humanity’s ecological footprint analysis tied to world’s biological diversity crisis, and with major emphasis on regional, cultural, and national footprints socioeconomic determinants. Such limited footprints studies without major regional and national determinants analysis include, among others, Burns et al, 2001; Rees, 1990; Wackernagel and Rees, 1996; and Jorgenson, 2003. This study analyzed the ecological footprints and their structural causes in different nations, regions, and cultures for ecological balance; and provided a summary of their socioeconomic determinants that were fleshed out through rigorous multiple regression analyses of their recursive variables. In effect, the study examined and explained the cross-cultural and national variations in total footprints and per capita footprints (personal planetoids) associated with ecostructural factors (socioeconomic processes) and world system human development hierarchy. Ecostructural factors are socioeconomic processes within nations that impact footprints, such as urbanization, literacy rate, gross domestic product per capita (affluence), domestic inequality (Gini Index), government social (public) spending, gender inequality index, and gender-related development index. Progress towards sustainable development can be assessed using human development index (HDI) as an indicator of well-being, and ecological footprint as a measure of demand on biosphere. The process exposes the
inequitable distribution of the world’s ecological footprints and at the same time heightens the concern about ecological imbalances and overshoots. The expectation is that the empirical analysis of the data and findings should yield some policy recommendations and suggestions on how to ameliorate the impacts of the detected socioeconomic determinants. The question is what factors are responsible for or are driving the total and per capita footprints among nations, regions, and cultures around the world? What type of secure environments should meet the needs of both people and natural environments in the above entities? Thus, the study proffered some solutions on how to reduce the footprints of nations and regions, which also will help to protect the national environment and promote a more equitable and sustainable society.

**Focus of Study:**
Nations and regions covered by the study include: African Countries, Organization for Economic Cooperation and Development (OECD) Countries, Latin America and Caribbean (LAC) Countries, Middle East and Central Asia Countries, and Asia-Pacific Countries.

**Theoretical Framework for the Study**
Within the biosphere, everything is interconnected, including humans, thus sustainable development requires a good knowledge of human ecology. The human life-support functions of the ecosphere are maintained by nature’s biocapacity which runs the risks of being depleted, the prevailing technology notwithstanding. Regardless of the humanity’s mastery over the natural environment, it still remains a creature of the ecosphere and always in a state of *obligate dependency* on numerous biological goods and services (Rees, 1992, p. 123). Despite the above *dependency* thesis, the prevailing economic mythology assumes a world in which carrying capacity is indefinitely expandable (Daly, 1986; Solow, 1974). The human species has continued to deplete, draw-down, and confiscate nature’s bio-capacity with reckless abandon. York et al (2003), indicated that population and affluence account for 95 percent of the variance in total footprints of countries. Thus, large human population all over the world and their excessive consumption of the scarce natural resources are responsible for the national footprint of nations. Thus, total human impact on the ecosphere is given as: population x per capita impact (Ehrlich and Holdren, 1971; Holdren and Ehrlich, 1974); Hardin (1991). In other words, population size and affluence are the primary drivers of environmental impacts (Dietz et al, 2007). The footprints of nations provide compelling evidence of the impacts of consumption, thus the need for humans to change their lifestyles and conserve scarce natural capital. According to Palmer (1998), there are in order of decreasing magnitude, three categories of consumption that contribute enormously to our ecological footprints: wood products (53 percent), food (45 percent), and degraded land (2 percent). Degraded land includes land taken out of ecological availability by buildings, roads, parking lots, recreation, businesses, and industries. Palmer also indicated that about 10 percent or more of earth’s forests and other ecological land should be preserved in more or less pristine condition to maintain a minimum base.

The environmental impacts of urban areas should be considered because a rapidly growing proportion of world’s population lives in cities, and more than one million people are added to the world’s cities each week and majority of them are in developing countries of Africa, Latin America, and Southeast Asia (Wackernagel and Rees, 1996).
The reality is that the populations of urban regions of many nations had already exceeded their territorial carrying capacities and depend on trade for survival. Of course, such regions are running an unaccounted ecological deficit; their populations are appropriating and meeting their carrying capacity from elsewhere (Pimentel, 1996; Wackernagel and Rees, 1996; Girardet, 1996, accessed Online on 12/14/07; Rees, 1992; The International Society for Ecological Economics and Island Press, 1994; Vitouset et al, 1986; Wackernagel, 1991; WRI, 1992, p. 374). Undoubtedly, the rapid urbanization occurring in many regions and the increasing ecological uncertainty have implications for world development and sustainability. Cities are densely populated areas that have high ecological footprints which leads to the perception of these populations as “parasitic,” since these communities have little intrinsic biocapacity, and instead, must rely upon large hinterlands. Land consumed by urban regions is typically at least an order of magnitude greater than that contained within the usual political boundaries or the associated built-up areas (The International Society for Ecological Economics and Island Press, 1994; Rees, 1992).

According to Rees (1992), every city is an entropic black hole drawing on the concentrated material resources and low-entropy production of a vast and scattered hinterlands many times the size of the city itself. In the same vein, Vitouset et al (1986) asserted that high density settlements “appropriate” or augment their carrying capacity from all over the globe, in the past and the future (see also Wackernagel, 1991). In modern industrial cities, resources flow through the urban system without much concern either about their origins, or about the destination of their wastes, thus, inputs and outputs are considered to be unrelated. The cities’ key activities such as transportation, provision of electricity supply, heating, manufacturing and the provision of socio-economic services depend on a ready supply of fossil fuels, usually from far-flung hinterlands than within their usual political boundaries or their associated built-up areas. Cities are not self-contained entities, and their concentration of intense economic processes and high levels of consumption both increase and stimulate their demands on resources. Cities occupy only 2 percent of the world's land surface, but use some 75 percent of the world resources, and release a similar percentage of waste (Girardet, 1996).

Like urbanization, energy footprint, created from energy use and carbon dioxide emissions, is not subject to area constraints. Energy footprint is the area of forest that would be needed to sequester the excess carbon (as carbon dioxide) that is being added to the atmosphere by the burning of fossil fuels to generate energy for travel, heating, lighting, manufacturing, recreation, among other uses. Actually, the demand for energy defines modern cities more than any other single factor. Cities contain enormous concentration of economic activities that consume enormous quantities of energy. The natural global systems of forests and oceans for carbon sequestration are not handling the human carbon contributions fast enough, thus the Kyoto Conference of early 1998. According to Suplee (1998), only half of the carbon humans generate burning fossil fuels can be absorbed in the oceans and existing terrestrial sinks. The oceans absorb about 35 percent of the carbon in carbon dioxide (Suplee, 1998), equivalent of 1.8 giga tons of carbon every year (IPCC, 2001), while the global forests under optimum management of existing forests could absorb about 15 percent of the carbon in the CO₂ produced from the burning of fossil fuels world-wide (Brown et al,
1996). The energy footprint is caused by the un-sequestered 50 percent in the atmosphere with the potentially troubling ecological consequences, such as rapid global warming and other environmental stresses, including climate change. Carbon dioxide in the atmosphere will continue to increase unless humanity finds alternative energy sources of sufficient magnitude. It is in the humanity's best interest to get off its petroleum addiction (control and minimize fossil fuel use) and develop sustainable consumption habits.

Literacy affects the consumption of natural capital resources. Highly literate groups concentrate in urban areas where they consume more than their fair shares of biospheric resources. Literate populations generally have lower rates of domestic inequality and tend to consume more resources than their illiterate counterparts due to their higher incomes and higher standards of urban living. Furthermore, higher levels of literacy correspond with higher incomes, which allow for greater consumption (Jorgenson, 2003). This is because literate populations are subject to increased consumerist ideologies and contextual images of good life through advertising (Princen et al, 2002); what Leslie Sklair (2001) and Jennifer Clapp (2002) labeled “cultural ideology of consumerism/consumption.”

Methodology for the Study

Unit of Analysis:
The units of analysis are “country” and “region” from different cultures of the world.

Samples:
To test for the national variations in total footprints and per capita footprints associated with human development index, as well as their socioeconomic determinants, Comparative Model Analysis and Stepwise Regression Analysis were used as the tools of analysis. Using comparative model, samples of eligible countries out of many countries from different regions and cultures were analyzed (see Global Footprint Network. The Ecological Footprint Atlas 2008). Step-wise Regression Analyses were also conducted using the samples. Each table represents countries in each region of the world studied, and as also represented by Global Footprint Network, The Ecological Footprint Atlas 2008. These tables do not include countries that were less than one million people in 2005, as well as the dependent territories without political independence. The larger population of at least one million is chosen for the study because; population is a variable which affects the consumption rates and levels, therefore the ecological footprint. The regional tables used in the analyses are not included in this summary presentation. They were included in previous regional studies by this author published elsewhere, such as The International Journal of Environmental, Cultural, Economic, & Social Sustainability; and The National Social Science Proceedings of The National Social Science Association (NSSA).

Mode of Analysis:
This is an explanatory study using Comparative Model that employs descriptive statistics (such as matrices, totals, averages, averages, ratios, and percentages) as well as Step-wise Regression. Regression analysis was performed to flesh out factors that highly impact regional, national, and per capita footprints; and also to strengthen the results from comparative analysis. Potential technical problems were diagnosed that might affect the validity of the results of various analysis mode components, such as the missing data in some countries or the exclusion or omission of some member countries.
of a particular region not meeting the stipulated selection criteria such as minimum population threshold; non-political sovereignty (dependent territory status) during the study period; etc. The aforementioned problems did not alter the substantive conclusions of the study, especially regarding the ecological footprint accounts and environmental sustainability of different countries, regions, and cultures.

The national ecological footprints and ecological balance as dependent variables are recursively explained by the country’s (region’s) various independent variables. The independent variables mediated in explaining the varying levels of consumptions and wastes among different nations of the world capitalist economy. It is hypothesized that Human Development positions and Ecostructural Factors of different countries are likely to be responsible for the variations in the National and Regional Ecological Footprints and Balances. Moreover, the carbon-dioxide emission levels of different countries are included in this study to depict and emphasize the biological and industrial metabolisms (consumption and environmental impacts) of different countries, regions, and cultures. The levels reflect their ecological footprints and balances.

**Hypothesis for the Study**

Null Hypothesis (H₀): None of the independent variables predicts the national and regional footprints effects. The independent variables do not influence the footprints.

Alternative Hypothesis (H₁): Some (if not all) of the independent variables predict the national and regional footprints effects.

**Variables in the Study:**

The Dependent and Independent variables are selected on the basis of the theoretical themes and underpinnings which indicate that national footprint (and regional footprint) as dependent variable is explained by the country’s (region’s) human development (HDI) hierarchical category, population size, population density, urbanization level, government social (public) spending (as % of GDP), GDP per capita, domestic inequality (Gini Index), gender inequality index (GII), gender-related development index (GDI), and literacy rate, as the ecostructural or independent variables.

**Variable Definitions**

*Human Development Index (HDI):* The HDI is a summary measure of human development (human welfare). It measures the average achievements of a country in three basic dimensions of human development (Global Footprint Network: *Africa’s Ecological Footprint-2006 Factbook*, p. 89): a long and healthy life, as measured by life expectancy at birth; knowledge, as measured by the adult literacy rate (with two-thirds weight) and the combined primary, secondary and tertiary gross enrolment ratio (with one-third weight); and a decent standard of living, as measured by GDP per capita (PPP US$). Purchasing power parity (PPP) is a rate of exchange that accounts for price difference across countries, allowing international comparisons of real output and incomes. At the PPP US$ (as used in this study), PPP US$1 has the same purchasing power in the domestic economy as $1 has in the United States of America

*Gross Domestic Product (GDP) per capita (PPP US$):* GDP is converted to US dollars using the average official exchange rate reported by the International Monetary Fund (IMF). GDP alone does not capture the international relational characteristics as does the human development hierarchy of the world economy, which accounts for a country’s relative socio-economic power and global dependence position in the modern
world system. It is suggested elsewhere that GDP per capita is an inadequate measure of world-system position but a more appropriate indicator of domestic affluence or internal economic development (Burns, Kentor, and Jorgenson, 2003; Jorgenson, 2003; Dietz and Rosa, 1994). The Gross Domestic Product (GDP) per capita data for this study is taken from Human Development Report 2007/2008, Table 1, and pp. 229-232. See also World Development Report 2005.

Domestic Income Inequality (Gini Index): The Gini index measures domestic income inequality of different countries, which had remained stable over a time with its impacts on other variables in the study (Bergesen and Bata, 2002; Jorgenson, 2003). Gini index measures the extent to which the distribution of income (or consumption) among individuals or households within a country deviates from a perfectly equal distribution (Human Development Report, 2004, p. 271). It measures inequality over the entire distribution of income or consumption. A value of zero (0) represents perfect equality, and a value of hundred (100) represents perfect inequality. Data for domestic income inequality measured by Gini index are taken from World Bank, World Development Report (2005), Table 2, pp. 258-259 and United Nations Development Report, Human Development Report 2007/2008, 15, pp. 281-284.

Gender Inequality Index (GII): The index shows the loss in human development due to inequality between female and male achievements in reproductive health, empowerment, and labor market. It reflects women’s disadvantage in those three dimensions. The index ranges from zero (0), which indicates that women and men fare equally, to one (1), which indicates that women fare as poorly as possible in all measured dimensions.

The health dimension is measured by two indicators: maternal mortality ratio and the adolescent fertility rate.

The empowerment dimension is measured by two indicators: the share of parliamentary seats held by each sex and by secondary and higher education attainment levels.

The labor market dimension is measured by women’s participation in the work force.

Gender Inequality Index is designed to measure the extent to which national achievements in these aspects of human development are eroded by gender inequality; also to provide empirical foundations for policy analysis and advocacy efforts. It can be interpreted as a percentage loss to potential human development due to shortfalls in the dimensions included. Countries with unequal distribution of human development also experience high inequality between women and men, and countries with high gender inequality also experience unequal distribution of human development (UNDP Human Development Reports). The Gender Inequality Index data for this study is taken from UNDP’s Human Development Report 2010___20th Anniversary Edition. The Real Wealth of Nations: Pathways to Human Development. Table 4: Gender Inequality Index, pp. 156-160.

Gender-Related Development Index (GDI): The index is one of the indicators of human development developed by the United Nations. The GDI is considered a gender-sensitive extension of the Human Development Index (HDI), which addresses gender-gaps in life expectancy, education, and income. It highlights inequalities in the areas of long and healthy life, knowledge, and decent standard of living between
women and men. It measures achievement in the same basic capabilities as the HDI, but takes note of inequality in achievement between women and men (Human Development Reports). The methodology used imposes a penalty for inequality, such that the GDI falls when the achievement levels of both women and men in a country go down or when the disparity in basic capabilities, the lower a country’s GDI compared with its HDI. The GDI is simply the HDI discounted, or adjusted downwards, for gender inequality. Thus, if GDI goes down, HDI goes down, while GII goes up. The methodology used to construct the GDI could be used to assess inequalities not only between men and women, but also between other groups such as rich and poor, young and old, etc. (Human Development Reports). The Gender-Related Development Index data for this study is taken from UNDP’s Human Development Report 2010—20th Anniversary Edition. The Real Wealth of Nations: Pathways to Human Development. Table 4: Gender Inequality Index, pp. 156-160.

Urbanization Level (Urban Population as percent of Total Population): Cities are not self-contained entities and their concentration of intense economic processes and high levels of consumption both increase and stimulate their demands on resources. The cities have limited intrinsic biocapacity which undoubtedly must rely upon large hinterlands. Land consumed by urban regions is typically at least an order of magnitude greater than that contained within the usual political boundaries or the associated built-up area (The International Society for Ecological Economics and Island Press, 1994; Rees, 1992). The data are taken from Human Development Report 2007/2008, Table 5, and pp. 243-246.

Literacy Rate: This variable refers to the percent of a nation’s population over the age of fifteen (15) that can read and write in any language of their choice. Literate population generally has low domestic inequality and tends to consume more resources than their illiterate counterpart due to their higher income and urban living. High literate groups concentrate in urban areas where they consume more than their fair shares of biospheric resources. Higher levels of literacy correspond with higher incomes, which allow for greater consumption (Jorgenson, 2003). This is because literate populations are subject to increased consumerist ideologies and contextual images of good life through advertising (Princen, 2002), what Leslie Sklair (2001) and Jennifer Clapp (2002) labeled “cultural ideology of consumerism/consumption.” The data for literacy rate is taken from the Human Development Report 2007/2008, Table 1, pp. 229-232.

Population and Population Density: Apart from consumption, many have attributed to population as driving most of the sustainability problems (Palmer, 1998; Pimentel, 1996). Likewise, Dietz et al (2007) concluded that population size and affluence are the primary drivers of environmental impacts. Population growth and increases in consumption in many parts of the world have increased humanity’s ecological burden on the planet. York et al (2003) indicated that population and affluence account for 95 percent of the variance in total footprints of countries. Others also see the ensuing human impact or footprint as a product of population, affluence (consumption), and technology (i.e. I = PAT (Ehrlich and Holdren, 1971; Holdren and Ehrlich, 1974; Hardin, 1991). Population as a variable in this study is taken from, World Development Report 2005, Table 1, and pp. 256-259.

Government Social Spending Per Capita: Spending by a government (federal, state, and local), municipality, or local authority, which covers such things as spending on

Comparative Model Analysis:

The results and findings from this model of analysis in this study are discussed under the subtitles that include, “Per Capita Ecological Footprint, Biological Capacity, and Ecological Balance by World Regions,” “Human Development and Affluence on Biological Capacity, Ecological Footprint and Balance by Regional Countries,” and “Ecostructural Factors on Total Footprints Per Capita by Regional Countries.” Please see individual national analyses and their results.

Regression Analysis

The tables used in the Comparative Model Analysis are also used for the Regression Analysis. Regression analysis allows the modeling, examining, and exploring of relationships and can help explain the factors behind the observed relationships or patterns. It shows the factors or independent variables that have strong correlation or association with dependent variable. The mathematical formula when applied to the explanatory variables is best used to predict the dependent variable that one is attempting to model. Each independent variable or explanatory variable is associated with a regression coefficient describing the strength and the sign of that variable relationship to the dependent variable.

In this study, the rows of the Unstandardized Coefficients of the “B” column of the Regression Model table is used to show the variables and their coefficients that exhibit strong correlation with total and per capita footprints of the nations and their regions. A regression equation might look like the one given below where Y is the dependent variable, the Xs are the explanatory variables, and the Bs are regression coefficients:

\[ Y = B_0 + B_1 X_1 + B_2 X_2 + \ldots + B_n X_n + E \] (Random Error Term/Residuals). The row of “unstandardized coefficients” or “Bs” gives us the necessary coefficient values for the multiple regression models or equations. See below for the Regression Analysis Terms.

Correlation or co-relation: refers to the departure of two variables from independence or they are non-independent or redundant (D’Onofrio, A., 2001/2002; Richard Lowry, 1999-2008).

Collinearity: Refers to the presence of exact linear relationships within a set of variables, typically a set of explanatory (predictor) variables used in a regression-type model. It means that within the set of variables, some of the variables are (nearly) totally predicted by the other variables [(Sundberg, R. 2002). Encyclopedia of Environmetrics, edited by Abdel H. El-Shaarawi and Walter W. Piegorsch (Chichester: John Wiley & Sons, Ltd), Volume 1, pp. 365-366].
Partial Correlation Coefficients ($r$): When large, it means that there is no mediating variable (a third variable) between two correlated variables (D’Onofrio, A., 2001/2002).

Pearson’s Correlation Coefficient ($r$): This is a measure of the strength of the association between two variables. It indicates the strength and direction of a linear relationship between two random variables. Value ranges from -1 to +1; -1.0 to -0.7 Strong negative association; -0.7 to -0.3 Weak negative association; -0.3 to +0.3 Little or no association; +0.3 to +0.7 Weak positive association; +0.7 to 1.0 Strong positive correlation (Luke, B., “Pearson’s Correlation Coefficient,” Learning From The Web.net. Accessed Online on 5/30/2008).

Multiple “R”: Indicates size of the correlation between the observed outcome variable and the predicted outcome variable (based on the regression equation).

$R^2$ or Coefficient of Determination: Indicates the amount of variation (%) in the dependent scores attributable to all independent variables combined, and ranges from 0 to 100%. It is a measure of model performance, summarizing how well the estimated Y values match the observed Y values.

Adjusted $R^2$: The best estimate of $R^2$ for the population from which the sample was drawn. The Adjusted R-Squared is always a bit lower than the Multiple R-Squared value because it reflects model complexity (the number of variables) as it relates to the data.

$R^2$ and the Adjusted $R^2$ are both statistics derived from the regression equation to quantify model performance (Scott and Pratt, 2009. ArcUser).

Standard Error of Estimate: Indicates the average of the observed scores around the predicted regression line.

Residuals: These are the unexplained portion of the dependent variable, represented in the regression equation as the random error term (E). The magnitude of the residuals from a regression equation is one measure of model fit. Large residuals indicate poor model fit. Residual = Observed – Predicted.

ANOVA: Decomposes the total sum of squares into regression (= explained) SS and residual (= unexplained) SS.

F-test in ANOVA represents the relative magnitude of explained to unexplained variation. If F-test is highly significant ($p = .000$), we reject the null-hypothesis that none of the independent variables predicts the effect (scores) in the population.

The “constant” represents the intercept in the equation and the coefficient in the column labeled by the independent variables.

Regression Analysis Results and Model Equations for different Regions and Cultures

Multiple (step-wise) regression analysis was performed on these two tables, “Human Development and Affluence on Biological Capacity, Ecological Footprint and Balance” and “Population, Ecostructural Factors and Total Footprint Per Capita”, from countries of each world region and culture for model equations of the total and per capita footprints socioeconomic determinants. For this summary, only the coefficients tables (that contain the “B” columns of the Unstandardized Coefficients) of the above two tables were used for the model equation constructions of the footprints socioeconomic determinants for different world regions and cultures. The other relevant analyses tables’ results were included elsewhere in previous world regional studies by the author as explained above. Given below are the tables (1a and 1b; 2a and 2b; 3a and 3b; 4a
and 4b; and 5a and 5b) associated with the regression analysis results, as well as the model socioeconomic determinants for different world regions and cultures.

**African Region Footprint Socioeconomic Determinants Model**
The Footprint Socioeconomic Determinants in Africa are: **GDP Per Capita, Carbon-Dioxide Emissions, Urban Population, and Literacy Rates.**

**Organization for Economic Cooperation and Development (OECD) Region Footprint Socioeconomic Determinant Model**
The Footprint Socioeconomic Determinants in Organization of Economic Cooperation and Development (OECD) are: **Carbon Dioxide Emissions, Ecological Balance, Bio-Capacity, Public Expenditure, Population Density, and Urban Population.**

**Latin America and Caribbean Region Footprint Socioeconomic Determinants Model**
The Footprint Socioeconomic Determinants in Latin America and Caribbean Region are: **Carbon-Dioxide Emissions, Bio-Capacity and Ecological Balance, and Urban Population.**

**Middle East and Central Asia Region Footprint Socioeconomic Determinants Model**
The Footprint Socioeconomic Determinants in Middle East and Central Asia Region are: **Bio-Capacity, Ecological Balance, Population Density, and Population.**

**Asia-Pacific Region Footprint Socioeconomic Determinants Model**
The Footprint Socioeconomic Determinants in Asia-Pacific Region are: **Carbon-Dioxide Emissions, Human Development Index, Public Expenditure on Health, and Urban Population.**

**Policy Recommendations**
Regions and nations are designated as high income, medium income, low income, or mix income economies by the United Nations Development Reports. In other words, there are high, low, and mix consumption countries and regions. Therefore, policy recommendations in this study addressed and reflected environmental issues in high, medium, and low income countries, regions, and cultures. Mix income economy regions reflected mix national footprints, environmental problems, recommendations, and solutions.

The above analyses supported the theorization and assertion that the global environmental stress is caused primarily by the increase in resource consumption (demand) and population size and growth in different countries, regions, and cultures. The study showed that the higher the national populations, urban populations, and GDP per capita (affluence), the higher the imbalanced consumption of resources (bio-capacity or natural capital), as well as national and regional footprints. The analyses also indicated that large human population all over the world and their excessive consumption of the scarce natural resources or capital are responsible for the footprints. Thus, a country’s or region’s total footprint, ecological balance, and carbon-dioxide emissions (waste) are a function of its human development (welfare) position and affluence in the world economy. As human development and income go up, the environmental performance goes down. Absolute population growth in many countries and regions, especially in low income developing countries and regions, as well as their rapid growing largest cities, are exerting tremendous pressures on natural resources. According to Rees (2012), for equity considerations, the way additional population
(especially in developing regions) or material growth and consumption (especially in developed regions) can be sustained without ravaging biodiversity and ultimately destroying the ecological basis of human life, is through cutbacks in resource or natural capital consumption by the wealthy nations and regions. Rees further stated that the above action is necessary to vacate the ecological space necessary to justify growth in low income countries and regions.

Carbon-dioxide is a major footprint contributor, and its concentration in the atmosphere will continue to increase unless humanity finds alternative energy sources of sufficient magnitude. It is in the humanity’s best interest to get off its petroleum addiction (control and minimize fossil fuel use) and develop sustainable habits. In the countries and regions with footprint intensities like in OECD countries, the amount of resources used in the production of goods and services can be significantly reduced, from energy efficiency in manufacturing and in the home, through minimizing waste and increasing recycling and reuse, to fuel efficient cars. Carbon sequestration can be improved by: reducing the rate of deforestation in the regions, necessary for carbon sinking; and more efficient agriculture and manufacturing, and use of adequate technology, for example, in Africa and Latin America and Caribbean regions with the highest rates of deforestation (biodiversity destruction) in the world.

Population, population density, and urban population are major factors of national and regional footprints in Africa, Middle East, and Central Asia. Thus, population management is essential and necessary in these regions. For example, urban population could be managed through redistribution to smaller centers to reduce pressures in the burgeoning large cities that are becoming inefficient black holes, in terms of natural resources and energy usage. According to Rees (1992), every city is an entropic black hole drawing on the concentrated material resources and low-entropy production of a vast and scattered hinterlands many times the size of the city itself. In the same vein, Vitouset et al (1986) asserted that high density settlements “appropriate” or augment their carrying capacity from all over the globe, as well as from the past and the future (see also Wackernagel, 1991). Population management could also be achieved through education and empowerment of women, who are major players (especially in developing countries and regions) in reproduction, economy, environmental sustainability, and biodiversity conservation (Aka, 2006). In countries and regions where gender inequality is high and gender development is low, as well as public (social) expenditure low in health and education, for example, in Middle East and Central Asia and African regions, adequate investments in health and education should be in order. This is informed from the fact that investment in health and education in low income countries and regions is also investment in people and in the future, with their positive externalities in the productivity of the capital stock, e.g., human resources.

Conclusions
This was an explanatory and exploratory study that used Comparative Model that employed descriptive statistics, as well as Step-wise Regression Analysis. Regression analysis was performed to flesh out factors that highly impact regional, national, and per capita and total footprints; and also to strengthen the results from comparative analysis. The study analyzed the ecological footprints and their structural causes in different nations, regions, and cultures for ecological balance; and provided a summary of their socioeconomic determinants that were fleshed out through rigorous multiple regression.
analyses of the recursive variables. The process exposed the inequitable distribution of the world’s ecological footprints and at the same time heightens the concern about ecological imbalances and overshoots. Data analyses results indicate that footprint socioeconomic determinants in different countries, regions, and cultures included: GDP Per Capita, Carbon-Dioxide Emissions, Urban Population, and Literacy Rates (Africa); Carbon-Dioxide Emissions, Ecological Balance, Public (Social) Expenditure, Bio-Capacity, Population Density, and Urban Population (OECD); Carbon-Dioxide Emissions, Ecological Balance, Bio-Capacity, and Urban Population (Latin America and Caribbean); Population Density, Population, Gender Inequality Index, Gender Related Development Index, Public Expenditure on Health and Education (Middle East and Central Asia); and Carbon-Dioxide Emissions, Public Expenditure on Health, and Urban Population (Asia Pacific). Thus, the study concluded from the above that the major drivers of environmental stress in all the regions and cultures are carbon-dioxide emissions, population, and urban population.

The above analyses support the theorization and assertion that the global environmental stress is caused primarily by the increase in resource consumption (demand) and population size and growth in different countries, regions, and cultures. Finally, to achieve regional ecological sustainability, emphasis should be through: gender empowerment and access to better education, healthcare, and economic opportunities; population management, especially through redistribution to smaller centers; and the already rich countries and regions to reduce their consumptive appetites and eco-footprints to create the ecological space needed for a justifiable growth in the impoverished countries, regions, and cultures.

References


Daly, H.E. (1986). Beyond Growth: The Economics of Sustainable Development (Boston, Massachusetts, USA: Beacon Press).


Table 1a:  
*Human Development and Affluence on Biological Capacity, Ecological Footprint and Balance in African Countries*

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>(Constant) GDP Per Capita</td>
<td>.426</td>
<td>.812</td>
<td>.524</td>
</tr>
<tr>
<td></td>
<td>2.428E-03</td>
<td>.000</td>
<td>.869</td>
<td>11.099</td>
</tr>
<tr>
<td>2</td>
<td>(Constant) GDP Per Capita</td>
<td>.852</td>
<td>.511</td>
<td>1.667</td>
</tr>
<tr>
<td></td>
<td>1.735E-03</td>
<td>.000</td>
<td>.621</td>
<td>10.693</td>
</tr>
<tr>
<td></td>
<td>Carbon Dioxide Emissions</td>
<td>6.250E-02</td>
<td>.008</td>
<td>7.947</td>
</tr>
<tr>
<td></td>
<td>.520</td>
<td>.462</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent Variable: Total Footprint

Table 1b:  
*Population, Ecostructural Factors, and Total Footprint Per Capita in African Countries*

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>(Constant) Urban Population</td>
<td>-2.384</td>
<td>3.134</td>
<td>-.761</td>
</tr>
<tr>
<td></td>
<td>.247</td>
<td>.078</td>
<td>.520</td>
<td>3.167</td>
</tr>
<tr>
<td></td>
<td>.229</td>
<td>.074</td>
<td>.482</td>
<td>3.092</td>
</tr>
<tr>
<td></td>
<td>Literacy Rates</td>
<td>.131</td>
<td>.062</td>
<td>2.109</td>
</tr>
<tr>
<td></td>
<td>.329</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent Variable: Total Footprint Per Capita
<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>21.029</td>
<td>10.029</td>
<td>2.097</td>
</tr>
<tr>
<td></td>
<td>Carbon Dioxide Emissions</td>
<td>.483</td>
<td>.009</td>
<td>.996</td>
</tr>
<tr>
<td>2</td>
<td>(Constant)</td>
<td>21.888</td>
<td>9.090</td>
<td>2.408</td>
</tr>
<tr>
<td></td>
<td>Carbon Dioxide Emissions</td>
<td>.445</td>
<td>.017</td>
<td>.917</td>
</tr>
<tr>
<td></td>
<td>Ecological Balance</td>
<td>-.165</td>
<td>.064</td>
<td>-.089</td>
</tr>
<tr>
<td>3</td>
<td>(Constant)</td>
<td>-.131</td>
<td>.138</td>
<td>-.951</td>
</tr>
<tr>
<td></td>
<td>Carbon Dioxide Emissions</td>
<td>-4.472E-5</td>
<td>.001</td>
<td>-.036</td>
</tr>
<tr>
<td></td>
<td>Ecological Balance</td>
<td>-1.000</td>
<td>.002</td>
<td>-.544</td>
</tr>
<tr>
<td></td>
<td>Bio-Capacity</td>
<td>1.000</td>
<td>.003</td>
<td>.564</td>
</tr>
<tr>
<td>4</td>
<td>(Constant)</td>
<td>-.129</td>
<td>.124</td>
<td>-1.039</td>
</tr>
<tr>
<td></td>
<td>Ecological Balance</td>
<td>-1.000</td>
<td>.001</td>
<td>-.544</td>
</tr>
<tr>
<td></td>
<td>Bio-Capacity</td>
<td>1.000</td>
<td>.000</td>
<td>.564</td>
</tr>
</tbody>
</table>

*a. Dependent Variable: Total Footprint*
**Table 2b: Population, Ecostructural Factors, and Total Footprint Per Capita in Organization for Economic Cooperation and Development (OECD) Countries**

<table>
<thead>
<tr>
<th>Coefficients&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1 (Constant)</td>
<td>1</td>
<td>3.683</td>
<td>.689</td>
<td>5.347</td>
<td>.000</td>
</tr>
<tr>
<td>Public Expenditure</td>
<td></td>
<td>.000</td>
<td>.000</td>
<td>.455</td>
<td>2.608</td>
</tr>
<tr>
<td>2 (Constant)</td>
<td>2</td>
<td>4.363</td>
<td>.708</td>
<td>6.159</td>
<td>.000</td>
</tr>
<tr>
<td>Public Expenditure</td>
<td></td>
<td>.000</td>
<td>.000</td>
<td>.431</td>
<td>2.651</td>
</tr>
<tr>
<td>Population Density</td>
<td></td>
<td>-.004</td>
<td>.002</td>
<td>-.366</td>
<td>-2.249</td>
</tr>
<tr>
<td>3 (Constant)</td>
<td>3</td>
<td>.677</td>
<td>1.635</td>
<td>.414</td>
<td>.682</td>
</tr>
<tr>
<td>Public Expenditure</td>
<td></td>
<td>.000</td>
<td>.000</td>
<td>.302</td>
<td>1.918</td>
</tr>
<tr>
<td>Population Density</td>
<td></td>
<td>-.005</td>
<td>.002</td>
<td>-.436</td>
<td>-2.885</td>
</tr>
<tr>
<td>Urban Population</td>
<td></td>
<td>.058</td>
<td>.023</td>
<td>.391</td>
<td>2.455</td>
</tr>
</tbody>
</table>

<sup>a</sup> Dependent Variable: Total Footprint Per Capita
Table 3a: *Human Development and Affluence on Biological Capacity, Ecological Footprint and Balance in Latin America and Caribbean Countries*

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>1.314</td>
<td>9.632</td>
<td>.136</td>
</tr>
<tr>
<td></td>
<td>Carbon Dioxide Emissions</td>
<td>.938</td>
<td>.075</td>
<td>.942</td>
</tr>
<tr>
<td>2</td>
<td>(Constant)</td>
<td>-1.325</td>
<td>5.075</td>
<td>-.261</td>
</tr>
<tr>
<td></td>
<td>Carbon Dioxide Emissions</td>
<td>.700</td>
<td>.051</td>
<td>.703</td>
</tr>
<tr>
<td></td>
<td>Bio-Capacity</td>
<td>.148</td>
<td>.020</td>
<td>.375</td>
</tr>
<tr>
<td>3</td>
<td>(Constant)</td>
<td>.225</td>
<td>.276</td>
<td>.815</td>
</tr>
<tr>
<td></td>
<td>Carbon Dioxide Emissions</td>
<td>-.006</td>
<td>.009</td>
<td>-.006</td>
</tr>
<tr>
<td></td>
<td>Bio-Capacity</td>
<td>1.007</td>
<td>.011</td>
<td>2.546</td>
</tr>
<tr>
<td></td>
<td>Ecological Balance</td>
<td>-1.008</td>
<td>.013</td>
<td>-1.813</td>
</tr>
<tr>
<td>4</td>
<td>(Constant)</td>
<td>.193</td>
<td>.268</td>
<td>.718</td>
</tr>
<tr>
<td></td>
<td>Bio-Capacity</td>
<td>1.000</td>
<td>.003</td>
<td>2.528</td>
</tr>
<tr>
<td></td>
<td>Ecological Balance</td>
<td>-1.000</td>
<td>.004</td>
<td>-1.798</td>
</tr>
</tbody>
</table>

a. Dependent Variable: Total Footprint
### Table 3b: Population, Ecostructural Factors, and Total Footprint Per Capita in Latin America and Caribbean Countries

**Coefficients**

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td>t</td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>-.744</td>
<td>.799</td>
<td>-.932</td>
</tr>
<tr>
<td></td>
<td>Urban Population</td>
<td>.045</td>
<td>.011</td>
<td>.667</td>
</tr>
</tbody>
</table>

a. Dependent Variable: Total Footprint Per Capita

### Table 4a: Human Development and Affluence on Biological Capacity, Ecological Footprint and Balance in Middle East and Central Asia Countries

**Coefficients**

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td>t</td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>9.028</td>
<td>7.174</td>
<td>1.259</td>
</tr>
<tr>
<td></td>
<td>Bio-Capacity</td>
<td>1.522</td>
<td>.155</td>
<td>.943</td>
</tr>
<tr>
<td>2</td>
<td>(Constant)</td>
<td>.009</td>
<td>.039</td>
<td>.232</td>
</tr>
<tr>
<td></td>
<td>Bio-Capacity</td>
<td>1.000</td>
<td>.001</td>
<td>.619</td>
</tr>
<tr>
<td></td>
<td>Ecological Balance</td>
<td>-1.000</td>
<td>.001</td>
<td>-.464</td>
</tr>
</tbody>
</table>

a. Dependent Variable: Total Footprint
Table 4b:
*Population, Ecostructural Factors, and Total Footprint Per Capita in Middle East and Central Asia Countries*

<table>
<thead>
<tr>
<th>Model</th>
<th>Coefficients</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>.829</td>
<td>.334</td>
<td>2.479</td>
<td>.038</td>
</tr>
<tr>
<td>2</td>
<td>(Constant)</td>
<td>.312</td>
<td>.245</td>
<td>1.275</td>
<td>.243</td>
</tr>
<tr>
<td></td>
<td>Population Density</td>
<td>.013</td>
<td>.002</td>
<td>.922</td>
<td>7.917</td>
</tr>
<tr>
<td></td>
<td>Population</td>
<td>.021</td>
<td>.005</td>
<td>.444</td>
<td>3.809</td>
</tr>
</tbody>
</table>

a. Dependent Variable: Total Footprint Per Capita
Table 5a:

*Human Development and Affluence on Biological Capacity, Ecological Footprint and Balance in Asia-Pacific Countries*

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>15.031</td>
<td>15.428</td>
<td>.974</td>
</tr>
<tr>
<td></td>
<td>Carbon Dioxide Emissions</td>
<td>.558</td>
<td>.013</td>
<td>.995</td>
</tr>
<tr>
<td>2</td>
<td>(Constant)</td>
<td>185.341</td>
<td>62.082</td>
<td>2.985</td>
</tr>
<tr>
<td></td>
<td>Carbon Dioxide Emissions</td>
<td>.564</td>
<td>.011</td>
<td>1.004</td>
</tr>
<tr>
<td></td>
<td>Human Development Index</td>
<td>-237.034</td>
<td>84.423</td>
<td>-.057</td>
</tr>
</tbody>
</table>

a. Dependent Variable: Total Footprint
Table 5b: Population, Ecostructural Factors, and Total Footprint Per Capita in Asia-Pacific Countries

Coefficients\textsuperscript{a}

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Constant)</td>
<td>.011</td>
<td>.370</td>
<td>.030</td>
<td>.977</td>
</tr>
<tr>
<td>Publ Exp. Health</td>
<td>1.035</td>
<td>.120</td>
<td>.902</td>
<td>8.612</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Constant)</td>
<td>-.964</td>
<td>.313</td>
<td>-3.083</td>
<td>.007</td>
</tr>
<tr>
<td>Publ Exp. Health</td>
<td>.756</td>
<td>.097</td>
<td>.659</td>
<td>7.811</td>
</tr>
<tr>
<td>Urban Population</td>
<td>.034</td>
<td>.007</td>
<td>.413</td>
<td>4.900</td>
</tr>
</tbody>
</table>

\textsuperscript{a} Dependent Variable: Total Footprint Per Capita
Is All Politics Local?
Latino Voters in Joliet, Illinois

Tanya Arias
Julie Victa
University of St. Francis
With the growing Latino population in the United States, there has been an increasing interest for Latino votes. While their numbers are increasing, Latino voter turnout remains low especially in local elections. This disappointing level of turnout will be scrutinized at the local level. A local focus offers a better sense of voter turnout than at the national level, not enough local politics research is conducted on the subject matter and local political issues are vitally important to the Latino community. The research will indicate misperceptions about Latino voting, analyze reasons for these levels and offer suggestions to increase voter turnout.

In recent years, the United States has seen an increase in the Hispanic population, making it into the “dominant minority group.” The recent 2010 Census recorded that out of the 308.7 million people residing in the United States, 50.5 million were of Hispanic or Latino origin, making up 17% of the U.S. population with a forecast of continual growth.

Experts commonly refer to the voting power of the Hispanic community as a “sleeping giant” due to the fact that 17% of the population is of Hispanic or Latino origin with only 10% voting in the 2012 presidential election according to the Pew Research Center. Despite the low voter turnout percentage, Pew has noted the importance of the Hispanic voting bloc; consisting of a young population with an average age of twenty-seven compared to the average age of forty-two of white voters. Simply in terms of replacing aging populations, the Hispanic vote is assuming more and more importance. This was certainly seen in the 2012 presidential elections. The Pew Hispanic Center found that 71% of individuals identifying themselves as Hispanic voted for Obama while only 27% voted for Romney. These votes were especially important in the key states of Florida, Nevada and Colorado. Realizing the importance of the Hispanic vote, each candidate targeted these voters throughout their campaign in order to gain their votes.

Not only are Latino votes important in national elections, but in local elections as well. Even though national elections tend to dominate research, local elections can be more significant since “changes in the percentage of voters who turn out can and do alter mayoral election outcomes and racial representation on city councils.” Based on this information, the city of Joliet, Illinois will be used to collect data on Latino voter turnout. Since the Latino population in Illinois is the fifth largest in the nation, this state was chosen in order to conduct research on local Latino voter turnout.

According to information from the city of Joliet, 25.2% of its residents are Hispanic. During an interview with Joliet Mayor, Tom Giarrante, it was revealed that only 4% of Hispanic registered voters turned out to vote in the 2013 local election, a low turnout since 15% of the Hispanic population were registered voters. During this interview, a concern was expressed over the low Hispanic voter turnout and a desire to know the reason for this low turnout and to find a way to increase the Hispanic voter turnout percentage.

Reasons for Low Latino Voter Turnout

Research indicts that a number of factors account for low Latino turnout. They include level of education (the higher the education, the more likelihood to vote), income (higher income, more likelihood to vote), residential mobility (the less time living in an area, the lesser the chance of voting in local elections), illness, not interested, too busy, forgot to vote, registration problems, etc. Table 1 compares the reasons behind not registering and voting for the 2008 elections between different ethnic backgrounds, age
groups, and educational level.

Table 1 confirms that people with higher education tend to register and vote more than someone with only a high school diploma or GED. Another note to make is out of the three minority groups, Hispanics held the most number of non-registered voters. Based on Table 1, the top three reasons Hispanics did not turn out to vote are (1) 24.8% were too busy, had conflicting schedules (2) 14% were not interested and (3) 11.7% had other reasons then the ones listed. Meanwhile the top three reasons Hispanics do not register to vote are (1) 36.2% were not interested in the election/not involved in politics (2) 17.2% were not eligible to vote and (3) 15.8% did not meet registration deadlines.

Correlation between low Latino voter turnout and Table 1 can be seen. The 2010 U.S. Census states there are 53 million Latinos in the United States and of those 53 million Latinos, only 23.7 million are eligible to vote but only 12.5 million (10% of Latino registered voters) voted in the 2012 election. Since only 23.7 million out of the 53 million Latinos are eligible to vote, that leaves about 30 million of Latinos ineligible to vote either because (1) 5.4 million are legal permanent residents (LPRs), (2) 7 million are undocumented immigrants, or (3) 17.6 million are under 18 years old. Whatever the case, if these 30 million ineligible Latino voters are made into eligible voters, then the Latino voter electorate will become a powerful voting bloc. A major part of the 17.6 million Latinos who are ineligible to vote due to age, will soon be eligible to vote, thus increasing the Latino voting block to 40 million by the 2020 election.

Local Politics: Joliet, Illinois

Local politics is critical since “people are distributed unevenly across geographic boundaries, groups that are small minorities and largely insignificant at the national level can be major players within many states, districts, or cities.” Since individual state, city, and district populations are smaller compared to a national population, gathering accurate data is easier; however as Hajnal and Troustine note, “although there are strong reasons to suspect that turnout is critical at the local level, there is, to date, little empirical evidence addressing this question.” In order to add more local empirical evidence, the city of Joliet, Illinois was chosen to be analyzed through a series of 30 interviews and surveys composed of Joliet Latino residents, as well as additional research through the records of city hall and the county’s board of elections.

Data:
Out of the 30 Joliet Latino residents sampled, 24 were registered voters and 6 were not. Of the 24 registered voters, 6 do not turnout to vote because they feel their vote does not matter, they don’t like any of the candidates, they think the government is too corrupt, or they are not interested in politics. In the case of the 6 not registered to vote, 3 were underage but made a commitment to register to vote and to turnout to vote in future elections. The other 3 not registered to vote were undocumented immigrants; however; they showed an interest in the government and even volunteered in candidates’ and organizations’ campaigns to Get Out The Vote (GOTV). When asked why these three undocumented immigrants volunteered in the GOTV movement, they all agreed that even though they cannot vote, they can influence others who have the right to vote to do their civic duty. As one individual stated, “just because I’m undocumented, doesn’t mean that I don’t care what’s going on in the country or in my community. Everything that affects citizens, such as the economy, affects me as well. I
would love to be able to vote, but with the current immigration system and the difficulty to obtain citizenship, I can’t.”  
When asked how often the 18 of the 24 registered Joliet Latino voters voted, 5 voted at every election, even the primaries; 5 voted in the general and local elections but not the primaries; and 8 only voted in the general elections. These results correlate with national statics that more voters vote in general elections than in local elections. When asked why the 8 Joliet Latino voters only voted in general elections, there was a consensus that they felt more obligated to vote in those elections since all forms of news media advertised voters are less inclined to vote since these elections are not nationally advertised but rather rely on local publicity to spread election awareness. However, many voters feel less inclined to participate in local elections since there is less of a hype for these elections and often times, publicity of these elections fail in informing the voters of these elections.  
People vote according to a variety of voter cues, name recognition, party affiliation, etc. In the Joliet Latino voters’ sample, 7 voted based on name recognition, 4 voted on party affiliation, and 13 voted through sharing the same views as a candidate’s. Based on this research, the notion that Latinos will vote more for a Latino candidate than a non-Latino candidate if given the option, was discovered. This notion was seen in the mayoral race of San Diego when there was a great chance that the new major could be a Latino, the first in San Diego’s history. In that election, 74% of San Diego’s Latino voters admitted to following the election closely and 64% of San Diego’s Latino voters were “enthusiastic about the chance to vote in the upcoming mayoral election…to elect the first Latino mayor.” To further analyze this notion, the question of rather a Latino voter would vote for Latino candidate based on his or her ethnicity was put to the test to the Joliet Latino voters’ sample.  
All the 18 Joliet Latino registered voters who turnout to vote, agreed they will rather vote for a Latino candidate than a non-Latino candidate. However; 15 of these Latino voters also stated that as long as the Latino candidate shared the same views as them, then they would vote for that Latino candidate, otherwise they would vote for the best candidate regardless of ethnicity. The other 6 registered Latino voters, who do not turnout to vote, admitted if a good Latino candidate ran for office, then they would turn out to vote for that candidate because that candidate would be looking out for their interests and accomplish their goals and promises unlike a non-Latino candidate. The 6 ineligible Joliet Latino residents agreed with the 15 of the registered voters who vote, that if the Latino candidate had good intentions for the country or community and had a good stance against issues, they would favor the Latino candidate over a non-Latino candidate.  
In an interview with Richard Rodriguez, Chair of the Mexican-American Coalition of Will County, Illinois; states “in 20-50 years from now, our country, our city is going to be completely different. We’re going to have more elected officials that are Latinos. When you have a 40% [Latino] population, and I think 20% in the city of Joliet, if that grows to 38% or more, it’s going to be difficult that we’re not going to elect someone who’s Latino in the city government, county government, or legislator.” He then compares the growing power Latinos to the Irish community, who once were a minority, but now, are one of the biggest voting blocs of the United States. As Rodriguez puts it, “the Irish are a very big voting block and when that voting block comes out and votes it can elect
in order to achieve success like the Irish, Latino voters need to turnout to vote, not only in general elections, but in local elections and to get involved in fundraisers, campaigns, rallies, run for office, anything to get the Latino voice heard. As Rodriquez puts it, Latinos are starting to get noticed, but why now? And what do Latinos think of this? Chart 1 looks at what the Joliet Latinos sampled believe are the reasons behind the recent rise of Latino awareness. From the sample of Joliet Latino voters, the majority agreed that the top reason for a growth in Latino voter awareness was due to the high population of Latinos in the United States and its predicted continual growth. Meanwhile the least common reason for the rise of Latino voter awareness was the increased amount of Latino political involvement. On the other hand, ineligible Joliet Latino voters believed that both the Latino growth in the United States’ population and the increase awareness of the Immigration Reform were the top reasons for Latino voter awareness.

Another question asked among the Joliet Latino voters’ sample was if they noticed any changes in their voting behavior compared to now and to their first time voting. The following data was collected and can be seen in Chart 2. When it came to any change in voting, 12 out of the 24 registered Latino voters vote more now than their earlier voting years. There was hardly any changes in political views. However, when asked to compare the amount of research they did on candidates and their issues, 9 out of 24 conduct less research now than in previous years. This lack of conducting research shows that people, especially Latinos, need to be educated on the importance of voting and familiarizing themselves with candidates’ views in order to make an educated vote. The responsibility of educating voters falls upon the voters themselves, but it should be encouraged by political organizations either through rallies, forums, or having a website with links to each of the candidates’ campaign websites. Often times, voters do not know where to find additional information on a candidate(s). This process will facilitate access to candidates’ political information.

Research obtained prior to these interviews and surveys suggest Latino voters tend to be more concerned about immigration reform and the economy than any other issue. In Chart 3, Joliet Latino voters expressed more concern over the economy than immigration reform. As Chart 3 indicates, there are misconceptions over the issues Latinos are concerned about and politicians as well as other organizations use these misconceptions to target Latino votes without realizing Latino voters care about the same issues as non-Latinos. As a subject noted, “in many cases if not most, as the years go along, as people mix with other groups and become more Americanized, they are less sensitive and less engaged with certain issues and with Hispanic culture in general.” This idea raises the question if Latino votes differ among generations.

First generation Latinos are composed of U.S. born citizens whose both parents immigrated to the United States. These first generation Latinos have a stronger tie to their Latino culture, speak Spanish at home, and are more concerned with Latino issues (i.e. immigration reform) compared to third generation Latinos, who are born from U.S. born Latino parents. Richard Rodriquez, Chair of Mexican-American Coalition of Will County, Illinois agrees “there’s a generational divide over older Latinos vs. younger
Latinos, but that’s in every nationality. There are differences with people who are 1st generation and 4th generation, but we all have relatives who are/were 1st generation."xxv He further argues that despite having different generations of Latinos, many do understand immigration reform, which is the main issue targeted at Latinos. Even though fourth generation Latinos do not face the fear of deportation or the struggle of living in a country as an undocumented immigrant, these fourth generation Latinos might know people who have to face this struggle and become interested in the topic of immigration reform; however; it is not one of their priority issues.

Even though not all Latinos have the same priority issues they, they all have one thing in common-seeking the correct candidate that will resolve these issues. However; politicians have slacked off on requiring the Latino vote, especially now that it has been gaining more importance. As stated by Idalia Cervantes, Joliet GOTV organizer for non-profit organization Casa Michoacán, “I think that if politicians actually cared about the smaller stuff, we will get somewhere, such as how many potholes are in Pilsen, all of these little issues we care about because we face them. When we feel that politicians don’t care about those little things, it gives us no hope when it comes to the bigger things like immigration.”xxvi By not resolving the smaller issues, politicians lose voters' interest and faith in resolving the bigger issues.

However; politicians have the tendency to work with Latinos and make many promises, such as immigration, but once elected, they tend to forget their promises and stop working with Latinos until it’s time to campaign for their re-election. Jorge Ramos, famous Latino journalist often referred as the Latino Walter Cronkite for his influence on the Latino population, once pointed out “without fail every four years, many politicians in the United States rediscover Latinos, only to forget them all over again for the next three years.”xxvii In order to combat this negligence, Latinos need more political participation and higher voter turnout. As Rodriguez elaborates, “The bigger issue is uniting the Latino community, collaborating, working together to create social justice, empowering people. Some people are differently political than others...we’re all united in one front where we’re underrepresented. We all agree that we need more elected officials that reflect our community and I say that there’s more common ground, more so than there is not.”xxviii

Work in non-profit organization:

In order to gain a better sense of GOTV and voter registration, volunteer work was conducted during the 2014 Midterm Election year with a local non-profit organization in Joliet- Casa Michoacán. Their main mission is to register people (especially Latino voters) and to educate both voters and potential voters on the voting process and on the importance to know a candidate’s stance on issues. Based on Chart 4, xxix the top three reasons for the lack of Latino voter registration are (1) belief that their vote does not matter due to politicians’ disinterest in their opinion/ showed no sign of passing an immigration reform (2) legal permanent residents (LPRs) status and (3) not interested in politics. Meanwhile non-Latinos' top three reasons for not registering to vote are (1) don’t live in the areaxxx (2) not interested in politics and (3) belief that their vote doesn’t matter. When both groups where asked why they believe their vote did not matter, the majority answered that no matter who they vote for, nothing ever changes so why vote if they cannot make a change.

Table 2xxx shows that Joliet voters tend to turnout more in general elections,
especially if that election is a presidential election. However; when it comes to local elections, turnout is always less than 25%. Even though Table 2 does not give Joliet Latino voter turnout, based on the low turnout rate of all voters, it is safe to assume that Latino voter turnout was low as well. However; having a higher voter turnout in local elections will be beneficial to Latino voters because it will eliminate underrepresentation in their city council. Changes in voter turnout “can and do alter mayoral election outcomes and racial representation on city councils. For Latinos...lower turnout results in less equitable racial and ethnic representation on city councils and less success in the mayor’s office.”

With unequal representation, Latino voters do not have someone to count on who will look after their issues and concerns, especially if they live in poor districts, for instance Joliet District 4 composed of African American and Latino population, is known as the poorest of all the five Joliet districts, yet it receives less funds because there has not been an efficient candidate elected to office.

**Political Strategies Towards Latino Voters**

**Campaigns:**

Many politicians have taken different avenues in order to gain the Latino vote. From hosting Latino rallies, going to Latino events, advertising in Spanish, to going to other extremes in order to receive Latino votes. An example of this extremity occurred in the summer of 2014 in Phoenix, when a Caucasian Republican politician-Scott Fisher-decided to change his name to Cesar Chavez; the name of a prominent figure for Latinos. Fisher had previously run twice for office in his district and failed. Since his district, the Seventh Congressional District of Arizona, has a large Latino population, Fisher stated “people [Latinos] want a name that they can feel comfortable with.”

This example demonstrates both the importance of the Latino vote and that politicians will do anything to gather these votes. “Chavez,” was taken off the ballot after many complaints from constituents and for his failure to gather enough, legal signatures.

**Ads and Commercials:**

A part of politicians’ campaigns involves the use of ads and commercials. To attract Latino voters, Spanish ads and commercials with a focus only on “Latino” issues instead of politicians’ overall agenda. Furthermore, politicians have to take into consideration that not all Latinos are first generation or Spanish-dominant speakers. As more generation Latinos exist, the more they become English-dominant speakers, and the less they use Spanish media to receive their news. Another factor to consider is that not all Latinos speak Spanish. In a study conducted by Political Scientist and Professor Marisa Abrajano, estimated that “Spanish advertising will increase voter turnout among Spanish dominant Latinos by up to 28%.” Although Spanish media plays an impact on Spanish dominant speaking Latinos, politicians need to reorganize the information presented in Spanish media in order for all Latinos to gain a better sense of their stance on issues and not just focus on “Latino issues.” As Chart 3 indicates, Latino voters are interested in other issues not just “Latino issues.”

**2014 Midterm Election a Pivotal Year:**

Midterm elections historically have low voter turnout than Presidential elections. The 2014 Midterm election has been stirring attention among politicians and voters alike. After the 2012 election, many voters have felt disappointment towards their politicians and many predict the Democratic Party will greatly suffer in the 2014 Midterm election. In addition, many predicted that Latino voters would be switching to Republican
candidates after the Democratic Party’s failure to pass a comprehensive immigration reform and especially after President Obama postponed his announcement on immigration action.

In the 2014 Midterm Elections, several states-some with high Latino populations, were predicted to have very close elections. For instance Colorado which has one of the fastest growing Latino electorates, xxxvi its Democrats have fostered to Latino issues and have shown support towards passing comprehensive immigration reform. Meanwhile, the Republicans of that state have failed to address the Latino electorate which many analysts believe will cause trouble with Republican candidates in the 2014 Midterm election. Overall, Texas has lagged behind in gathering the Latino vote, especially when it holds one of the highest Latino populations. Many analysts predict Texas could become a swing state in the near future, especially if the Latino electorate increases and makes a high demand and force in the upcoming elections. Currently Texas is registered as a Republican state, but with the failure of passing an immigration reform, one of the biggest issues concerning Latinos, the Republicans could lose Texas. xxxvi

According to the National Council of La Raza, “the Latino vote could have significant impact on congressional and gubernatorial races in 2014.” xxxvii Furthermore, the Latino vote could determine the outcome of 33 narrowly contested House seats which include 14 seats held by Republicans and 19 seats held by Democrats. xxxviii After the November 2014 Midterm elections, these predictions became reality. The Democratic Party lost 9 Senate and 16 House seats to the Republicans, as well as losing both the House and Senate Majority. xxxix,xl Many factors could attribute to the Democratic lost; however; polls did see a decline in Latino votes cast for Democratic candidates.

How to Increase Latino Votes

With the gained interest of Latino voting, one factor remains: how to increase both Latino voter registration and turnout. As mentioned before, only 12 million of the 23 million Latinos eligible to vote turnout to vote. Many organizations have developed different means to increase Latino voter registration and turnout.

**Mailing Drive:**

A mailing drive, such as the one instituted in Harris County, Texas; can raise voter turnout among minority voters. Components of a mailing drive include consistent mailings of voter registration information, directions to voting locations, information on voter’s registration status, information on all candidates and where to find additional information, as well as information on different organizations that are willing to help voters either to translate the ballot, offer rides to and from the voting polls, or to register voters. xli This project increased Latino voter turnout in the 2012 elections by 58%, a record high for Harris County, Texas.

**GOTV Movement:**

The GOTV (Get Out the Vote) movement has been instituted for many years, combining voter registration, door-knocking, and phone banking. Many organizations implement this movement in their communities in order to increase the electorate and voter turnout. The National Council of La Raza (NCLR) have strived to register, educate, and mobilize Latino voters throughout the United States and have partnered with other organizations in order to achieve their goal. NCLR strives to register 250,000 Latinos in order to increase Latino electoral participation.

**Conclusion**
After conducting national research on Latino voting, local level research was implemented since often times its neglected or not given as much attention as the national elections. Despite grown interest in Latino voting, many Latino voters do not turnout to vote due to many reasons indicated in Table 1. In addition, many misconceptions on Latino voting have been discovered from only being concerned with “Latino issues” to all Latino voters knowing Spanish. As indicated in Chart 3, Latino voters are concerned with the same issues as other Americans.

Focusing this research on the Latino electorate in Joliet, Illinois gave a better look at Latino voting behavior in local elections. Another benefit of studying local elections is the opportunity of participating in the GOTV movement and the ability to gather personal inquiries on voting and voter registration as well as motivating and influencing the Latino electorate in Joliet, Illinois.

An important takeaway of this research is education. Many of the electorate, especially the Latino electorate, are not educated on their voting places, their candidates, or their voter registrations status. Furthermore, many Latino voters do not understand the importance their votes have on elections, especially local elections or their underrepresentation in their city councils. It is important to note that the “less regular voting participation of groups like Latinos...leads to their systematic underrepresentation on local governing bodies.”xlii If Latinos want their voices to be heard and respected, then they need to register to vote, educate themselves on their voting place, the candidates running for office, and turn out to vote; otherwise how will they expect to receive the respect they want and deserve?

References


2014 Election Results Senate: Map by State, Live Midterm Voting Updates (POLITICO) [http://www.politico.com/2014-election/results/map/senate/#.VRW59kg2Wa9](http://www.politico.com/2014-election/results/map/senate/#.VRW59kg2Wa9)


Will County Primary Election Results http://results.enr.clarityelections.com/IL/Will/48548/125483/en/summary.html
Table 1: Reasons for Not Registering and Voting, by Selected Characteristics: 2008

(Numbers in thousands)

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Percent distribution of reasons for not voting and registering</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Race and Hispanic origin</td>
</tr>
<tr>
<td></td>
<td>White</td>
</tr>
<tr>
<td></td>
<td>alone</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Reasons for not voting:</td>
<td></td>
</tr>
<tr>
<td>Too busy, conflicting schedule</td>
<td>17.5</td>
</tr>
<tr>
<td>Illness or disability</td>
<td>14.5</td>
</tr>
<tr>
<td>Not interested</td>
<td>13.4</td>
</tr>
<tr>
<td>Did not like candidates or campaign issues</td>
<td>12.9</td>
</tr>
<tr>
<td>Other reason</td>
<td>11.3</td>
</tr>
<tr>
<td>Out of town</td>
<td>8.8</td>
</tr>
<tr>
<td>Don’t know or refused</td>
<td>7.1</td>
</tr>
<tr>
<td>Registration problems</td>
<td>6.0</td>
</tr>
<tr>
<td>Inconvenient polling place</td>
<td>2.7</td>
</tr>
<tr>
<td>Transportation problems</td>
<td>2.6</td>
</tr>
<tr>
<td>Forgot to vote</td>
<td>2.6</td>
</tr>
<tr>
<td>Bad weather conditions</td>
<td>0.2</td>
</tr>
<tr>
<td>Total not registered</td>
<td>30,402</td>
</tr>
<tr>
<td>Reasons for not registering:</td>
<td></td>
</tr>
<tr>
<td>Not interested in the election(not involved in politics)</td>
<td>45.0</td>
</tr>
<tr>
<td>Did not meet registration deadlines</td>
<td>14.7</td>
</tr>
<tr>
<td>Not eligible to vote</td>
<td>8.6</td>
</tr>
<tr>
<td>Other</td>
<td>6.1</td>
</tr>
<tr>
<td>Permanent illness or disability</td>
<td>6.0</td>
</tr>
<tr>
<td>Don’t know or refused</td>
<td>5.7</td>
</tr>
<tr>
<td>Did not know where or how to register</td>
<td>4.2</td>
</tr>
<tr>
<td>My vote would not make a difference</td>
<td>4.0</td>
</tr>
<tr>
<td>Did not meet residency requirements</td>
<td>3.5</td>
</tr>
<tr>
<td>Difficulty with English</td>
<td>1.4</td>
</tr>
</tbody>
</table>

- Represents zero or rounds to zero.
- Includes only those respondents who answered "no" to the question about reason for not voting.
- Includes individuals reporting an associate’s degree.

### Table 2
**Joliet, IL Election Results**

<table>
<thead>
<tr>
<th>Type of Election</th>
<th>Registered Voters</th>
<th>Ballots Cast</th>
<th>Voter Turnout</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nov. 4, 2014 General Election</td>
<td>45,239</td>
<td>18,402</td>
<td>40.75%</td>
</tr>
<tr>
<td>March 18, 2014 General Primary Election</td>
<td>45,154</td>
<td>5,872</td>
<td>13%</td>
</tr>
<tr>
<td>April 9, 2013 Consolidated Election</td>
<td>44,951</td>
<td>6,339</td>
<td>14%</td>
</tr>
<tr>
<td>Nov. 6, 2012 General Election</td>
<td>42,733</td>
<td>29,748</td>
<td>69.6%</td>
</tr>
<tr>
<td>March 20, 2012 Primary Election</td>
<td>43,273</td>
<td>6,687</td>
<td>15.45%</td>
</tr>
<tr>
<td>April 5, 2011 Consolidated Election</td>
<td>43,085</td>
<td>10,325</td>
<td>23.96%</td>
</tr>
</tbody>
</table>

**Chart 2**
**Changes in Voting for Joliet Latino Voters**

<table>
<thead>
<tr>
<th>Changes in Voting</th>
<th>Number of Joliet Latino Voters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vote More</td>
<td>12</td>
</tr>
<tr>
<td>Vote Less</td>
<td>5</td>
</tr>
<tr>
<td>No Voting Change</td>
<td>7</td>
</tr>
<tr>
<td>More Conservative</td>
<td>1</td>
</tr>
<tr>
<td>More Liberal</td>
<td>1</td>
</tr>
<tr>
<td>More Research Done on Candidates</td>
<td>2</td>
</tr>
<tr>
<td>Less Research Done on Candidates</td>
<td>9</td>
</tr>
</tbody>
</table>
Through the research conducted for this paper, it was discovered that not many research on the effect of voter turnout in local politics has been made. Due to this finding, research from national elections was used and implemented into our local experiment in Joliet, IL in order to find any correlation between voting behavior in national and local elections among Latino voters.

Although the terms Hispanic and Latino have slightly different meanings, for the purpose of this paper they will be used interchangeably throughout the paper. It is also important to note that many who fall under this category may prefer to be called by their nationality, i.e. Mexican-American, rather than Hispanic or Latino.

Eagleton Institute of Politics, 2014.

U.S. Census Bureau, 2010.

Ibid.


See Tables 1 and 2 as well as Charts 1-4


2.0 million Latinos reside in Illinois which composes 4% of the total United States Latino population. Of the 2.0 million Latinos in Illinois, more than 700 thousand are eligible voters, which made it a great state to conduct local Latino voter turnout.

Table 1 comes from the 2012 report from the U.S. Census Bureau.


Ibid, 7.


Ibid, 518.

Joliet population equals 147,433 people with Latino population consisting of 41,042 (28% of total population) according to U.S. Census Bureau.

Undocumented Latinos make up about 7 million of the United States Latino population. Despite not being allowed to vote, many undocumented Latinos participate in politics either through funding campaigns, going to rallies, volunteering for campaigns, etc.


Richard Rodríguez 2014 Interview.

Richard Rodríguez’s statistics are based on full Latino political participation and turnout. These figures are just estimates to showcase the potential power of the Latino electorate in Joliet.

Richard Rodríguez 2014 Interview.

Political involvement in this case includes: elected Latino officials in office, Latino political participation in fundraiser, campaigns, attending rallies, etc.

Richard Rodríguez 2014 Interview.

Idalia Cervantes 2014 Interview.


Richard Rodríguez 2014 Interview.

Chart 4 is based on responses people in the Joliet community gave during our time volunteering with Casa Michoacán. The people were not necessarily Joliet residents.

These responses mainly came from students from the University of St. Francis, which most do not have permanent residence in Joliet and either preferred to register in their hometown or not register at all.

These results are based on all Joliet voters, the specific number of Latino voters registered and turnout was not available.


Ibid.

2014 Election Results Senate. POLITICO.

2014 Election Results House. POLITICO.

“Driving Hispanic Turnout Through the Mail.” *Campaigns and Elections.* 2012.

The Student Thinking Lens & Inquiry

Moira J. Baldwin
Teresa LeSage-Clements
Barba Aldis Patton
University of Houston-Victoria
Abstract

Two helpful tools building questioning strategy are called The Student Lens (STL) and the Science Content Story Lens (SCSL) by the Biological Studies Curriculum Study. These tools in an instant can help a teacher determine what his or her student understands, what he or she should plan to teach next, and plan the order of the activities to solidified student science content understanding. Students on the other hand are engage with their learning and learn how to think about what they are learning—they learn the scientific method with inquiry questioning. This paper discusses the STL and the SCSL as inquiry instruments practicing the scientific method.

Promoting Student Science Thinking

Teachers need creative ways to encourage students to understand, apply, and connect to new concepts. Sometimes this is challenging, especially with few resources and a student body with different demographics groups. Science Achievement has remained relatively flat with slight ups and downs throughout the previous five years, although overall there has been nil improvement in Texas and the Nation for grades EC-8. The gap in science achievement is greater between whites, especially white males compared to females, African Americans, Hispanics, American Indians or Alaskan Natives continues. Students from more advantaged backgrounds or homes where the primary language was English, out-performed their peers from low-income families and where non-English was the primary language (NAEP, 2005; ETS, 2009; Science and Engineering Indicators, 2014). Research shows science achievement differences among subpopulations already existed when students entered kindergarten and widened for some groups by 5th grade (Science and Engineering indicators, 2006). Similar trends have been noted in Texas public schools on science TAKS and STARR achievement tests (Texas Education Agency, 2008 & 2014).

The Student Thinking Lens was developed by the Science Education Curriculum Study science education research and science teacher professional development center (also known as BSCS). The Student Thinking Lens is a set of science inquiry strategies to enhance student science knowledge and understanding. The Lens helps connect a bridge between the student’s culture to the instruction where all students can be engaged in learning. To initiate, all the teacher needs is the Student Thinking Lens training and a poster board to record student thoughts, ideas, and vocabulary words or something to write on where the students can plainly see it, such as a word wall. The Student Thinking Lens makes student thinking visible with questioning strategies and prepares students to communicate scientifically, which helps the teacher scaffold the student’s prior knowledge to what is needed to be learned. The teacher knows immediately what his or her students understand and what to teach next. Research shows that effective science teaching makes student thinking visible and pays attention to students’ ideas, especially when they are wrong and builds from students’ ways of thinking and supports them in changing their ideas (BSCS, 2014). These changes are not easy to make when everyday ways of explaining things make so much sense (e.g., air doesn’t have weight).

The STL can be used to reveal student thinking first with teachers by asking students elicit, probe, and challenge questions; second, having students support their thinking with claims, evidence, and reasoning from observations and data; and three,
communicating their thinking scientifically with student new ideas, connections, synthesizing, and summarizing.

What kinds of questions from the STL can make student thinking more visible in science lessons?

- Elicit questions to the class to collectively learn what the student know as a community of learners and identify misconceptions
- Probe questions to individual students to find out what they thinking and identify misconceptions
- Challenge questions when students are ready for next ideas
- Have student answer questions/communicate in scientific ways with appropriate vocabulary as the concepts are learned

What should teachers simultaneously be doing using the SCSL?

- Identify the main learning goal
- Set the purpose with a focus question
- Select activities matching the learning goal
- Sequence the key science ideas
- Make links between the ideas and other science ideas
- Highlight and focus ideas and questioning throughout,
- And summarize key ideas.
- Plan activities for correcting misconceptions
- Teachers should ask inquiry-type questions to determine students’ misconceptions.
- Teachers should use discrepant events to help eliminate students’ naive thinking and promote critical thinking

Students of all ages are naturally curious and need interesting activities to hold their attention and motivate continued learning. Combining students’ natural curiosity with questioning strategies such as the STL and embedding the SCSL, helps enhance better student thinking and student achievement.

References
Professionalism and the Internet: The Challenge of Promoting a Professional Identity and Maintaining Personal Privacy

Randy Basham
The University of Texas at Arlington
Abstract

Developing an online professional identity, a professional photograph, online portfolio, online professional social network, a cumulative professional history, professional email name, and video demonstrations as interviews, instructional lectures, training vignettes, and professional service announcements (PSA’s) and are essential to career development, hiring success, and professional service promotion, especially among highly visible and often politically appointed, public service, social work and various social science professionals and social service delivery professionals. Maintaining some level of privacy, personal and professional boundaries, private life, personal time, and sustained positive reputation, or repairing damage from unguarded or unwise posts and interactions that occurred prior to the professional career are difficult to achieve. Increasingly employers are supplementing the identity verification, employee background check, reference check, and candidate stress or situational interview, with contractual relationships with corporations specializing in online reputation investigations. Career social service providers must develop online persona that reflects professional integrity and career values.

Professional (peer reviewed), professional education, and career development journals exhibit a dearth of career devoted research on identifying, best practice, or model standards for conveying an entirely professional persona online. There appears to be little online content relative to curriculum that demonstrates that the concept is incorporated into current professional socialization and training models. Recent survey data from the PEW Research Centers Internet and American Life Project Data, suggest that both the phase of life associated with academic development toward a career and both career entry and late career phases of career life are time when loss of job or employment opportunities are more likely due to online or internet usage.

Introduction

To the degree possible and especially for those working with people, or in the social or educational service delivery professions, one’s online presentation should reflect, or be consistent with one’s profession, or the profession that one aspires to. An online reputation should be respected and respectful to others and tend to demonstrate professional integrity. Further, the values and ethics of the profession should be incorporated into the online professional reputation. However, this concept may not be well understood by those who have not considered their professional career direction, or among students in need of career development orientation and training and among career novices. Of course, human beings are also fallible and may at times present less than their best. Learning to recover and reestablish a professionally responsible online persona, and retain personal privacy, is also an essential skill for maintaining career success.

Literature Review

Career Development and Internet Reputation

Young people, in early career development, are often unaware of the longer term implications of their social networking and online activities prior to entering professional education. Schools may wish to provide a socialization component for emerging professionals, emphasizing the impact often negative to the aspiring professionals who
have reputation damaging content posted, archived, or available online. Online
background searches are commonly performed these days by potential relational
partners, professional education programs and of course employers (Van Ouytsel,
Walrave, & Ponnet, 2014). In addition, such instances as child adoptions for families,
financial considerations as contractual business partners, or vulnerability to scams or
victimization may also be associated with online persona issues that indirectly affect
ones career through reputational damage other than employment. There are also a
number of techniques and third party vendors that provide services to manage or
recover online reputational damage (Bolten, K., 2013).

From the employer’s perspective, the concept of background checking is also known
as cyber vetting of perspective employees and appointed professionals. The concept is
viewed as risk management to the hiring organization and as protection to vulnerable
customers, or groups. The online reputation check is a task seen as due diligence, for
professional organizations (Berkelaar, & Buzzanell, 2014). In addition may employment
applications and screening procedures require that detailed questions be responded to
about the employees past conduct, which if later found untrue, as the result of posted
online content could lead due job loss and missed employment opportunities elsewhere.
Being truthful on applications is a requirement of most employers. Discrepancies
identified online may end a professional career, or limit upward mobility. The National
Career Development Association: http://www.ncda.org/aws/NCDA/pt/sp/resources
provides a number of appropriate online resources for those wishing to use the internet
to develop professional careers, along with a number of suggestions on safeguarding
professional reputation.

To be sure, the internet has a memory that never forgets. Nothing is removed from
the internet. The internet is archival and searchable. The internet has no social
consciousness. The internet and its audience, is unforgiving. The internet has
exceptional gossip and dissemination capacities. The internet does not give second
chances.

Each person in pursuit of professional accomplishments has the right to falter, to
make mistakes, to practice, and to improve as a developing professional, however the
internet and the consumer may favor the negative information posted by or about the
aspiring professional and thereby limit capacity to fully develop. In his popular text, The
Future of Reputation: Gossip, Rumor, and Privacy on the Internet, Daniel J. Solove
adeptly points out the permanency of reputational mistakes archived in cyberspace
(Solove, 2007). For more information, please see the, YouTube Video: (2013).
Introduction to: The Dos & Don'ts of Social Media Etiquette. Hootsuite University:
https://www.youtube.com/watch?v=ootxiibcOWc.

Theories on Career Development Success

There are a number of established theories on career development that pertain to
the employees, or professional are capacity to gain acceptance over time, fit into a
professional role or organizational context, and remain in favor with colleagues and
clients, within a practice, discipline or organizational context. Several relate to
professional identity development. The need for personal privacy is not necessarily
include in these, but is inferred.

Career development—life-span perspectives, includes the theory that work has
moved beyond providing for basic human needs and has become related to ones
persona. That is that work or career aspirations may evolve from the environment, or ones family values and community standing. This approach to career development means that the person seeking a career, as a priority, effects their behavior and goals beyond the workplace, inclusive of rewards sought and identity achieved (Vondracek, 1998).

Developing a professional identity and maintaining privacy online would require the career aspirant to communicate preferred values and norms of family and community through their online communication and memberships and to reflect professional development online consistent with their professional role. The career aspirant would seek to assimilate the core values of the profession and externally reflect these online. Career development would require approximating the ideals of the sought role in online presentation.

Person–environment fit and Holland’s theory includes the notion that there are essentially six work oriented personality types for our current culture. These are; Realistic, Investigative, Artistic, Social, Enterprising, and Conventional, known commonly a Holland Codes or RIASEC. Those people of the similar personality types working together in a job tend to create a work environment that fits their type. The six basic types of work environments, as mentioned are: Realistic, Investigative, Artistic, Social, Enterprising, and Conventional. Career developers, search for environments where they can use their skills and abilities and express their values and attitudes. An environment fit would mean that artistic persons would seek artistic work environments and that investigative interest persons would seek investigative environments for careers or employment. Those who choose to work in environments, or careers similar to their own personality type are more likely to be contented and effective. How people act and feel at work depends to a large extent on the workplace environment (Career Key, Inc., 2015).

Achieving person in environment fit relative to career development would require some efforts toward privacy online relative to behaviors or communication that differed with the organizational or environmental role of the profession. Conformance to expectation for ones profession in online professional or promotional content would be preferred. Professional identity would need to be seamlessly maintained over the span of one’s career.

Workplace justice is another theory relating to career or professional development. Workplace justice includes aspects of authority figures with greater power sanctioning or progressively disciplining, to limit opportunities, as a result of perceived wrongdoing of the employee by an authority. Those perceived correctly or incorrectly those fit into the environment, or profession, and are model citizens are more greatly rewarded by the authority. However, this may be based heavily upon conjecture, institutional information sources (gossip) and perhaps the bias of the authority figure, or reference group (Edwards, 2015).

Sanctioning, or passing over for opportunities, or promotion, of professionals and employees who violate industry norms or expectations online would be a possible outcome of non-discreet or reputationally inappropriate content in social media or professional content areas.

The Effects of Social Media on Employment, Professional Reputation, and Privacy
University career advising services are increasingly providing socialization to aspiring professional students about the risks associated with using social media and the internet upon hiring and professional development. Public and state organization may request access, or through third parties gain access to social media networks and sites. There are a number of online screening and background checking organizations that screen perspective hires. Further, there is ample research to demonstrate that potential employers are affected in hiring decisions by online postings, and social media.

Social media can heavily influence being hired or fired.

Per google public media resources (Kennedy, 2014): [http://www.cbsnews.com/news/this-info-can-kill-your-chances-of-getting-hired/](http://www.cbsnews.com/news/this-info-can-kill-your-chances-of-getting-hired/), a survey from the job search site Career Builder of approximately 2,100 hiring managers and human resource professionals and approximately 3000 workers found that over half of employers who research job candidates on social media found content that led them not to hire the candidate. The same resource found that about 43% of employers are using social media sites to collect additional information about job candidates. The number of employers doing so is increasing. The article linked above contains a listing of those findings common to social media pages that led to them not hiring the candidate. At times though, the findings on social media pages have been beneficial to the job candidate, See also (DiGangi, 2014): [http://www.foxbusiness.com/personal-finance/2014/10/27/is-facebook-killing-your-chances-getting-job/](http://www.foxbusiness.com/personal-finance/2014/10/27/is-facebook-killing-your-chances-getting-job/). These same public media sources indicate that vast majority of recruiters and HR professionals (about 93%) review their candidates’ social media profiles before making a hiring decision. Maintaining an online identity or persona consistent with one’s career objectives is then critically important. More so if on the job market. For more information, please see the, YouTube video: Using improper social media etiquette can affect your job: [https://www.youtube.com/watch?v=DIKnS_q3L_Q](https://www.youtube.com/watch?v=DIKnS_q3L_Q).

Though, according to (BestColleges.Com 2014) employers searches indicate: [http://www.bestcolleges.com/resources/manage-your-online-reputation/](http://www.bestcolleges.com/resources/manage-your-online-reputation/) a report from the Jobvite, recruiting platform, surveys more than 1,800 recruiters and human resource workers about their hiring tendencies focused on the impact of social media on attracting and vetting talent. This survey explains the three self-reported big faults employers found in social media and the most search media.

These were:

1. Other peoples content- especially evaluative comments about you,
2. Delayed deletions- content that is on the page too long, and
3. Not distinguishing one-self professionally.

Social media affect this is especially true for students or recent graduates who don’t have much in the way of job history to recommend them. 84% of recruiters think that online reputations will impact future hiring procedures all or most of the time during the next five years. Unfortunately, very few applicants take their social media seriously – in
fact only 7% of applicants in the U.S. think that their online reputation factors into their rejections at all. More than three fourths of employment recruiters hired from sources such as; LinkedIn, Facebook, or Twitter.

Managing Professional Reputation Online

The more frequent of recommendations to manage online reputation if negative personal history exists are 1. Search yourself, 2. Buy your domain name, 3. Put all of your content in one place, 4. Join social networks; optimize your presence on these sites, and 6. Keep private things private, while assuming that nothing is truly private (Forbes, 2013) [http://www.forbes.com/sites/susanadams/2013/03/14/6-steps-to-managing-your-online-reputation/]. For more information, please see the, YouTube Michael Fertik, CEO, Reputation.com "How Social Media Affects Your Ability to Get (and Keep) a Job," Kaplan University. [http://www.cnn.com/2012/10/09/living/real-simple-social-media-job/index.html].

Methods

Hypothesis

Based upon the trends evident in the substantive and theoretical literature, and online media, certainly age and level of education relative to internet use appear related to reputational damage and employment or opportunity loss, level of income may also be an indicator based open access to the internet or current level of occupational success. Differences between frequencies of expected and observed job or opportunity loss relative to age, income or educational level seem likely. To evaluate this possibility a Pew research Center dataset was utilized for Chi Square secondary analysis with histogram charts for graphical representation of results.

Data

The PEW Research Centers Internet and American Life Project Data, from the July 2013 Omnibus Anonymous Internet usage survey of 1,002 adults living in the continental United States explored, level of education and level of income to the likelihood of loss of a job or educational opportunity as the result of internet or online activities. Both income and education are indicators of success and professional development. A simple crosstabs evaluation of education level and income utilizing chi square of the frequency and percentage of observed survey responses compared to expected frequencies and a Phi and Cramer’s V test of nominal categories was reported as output from evaluating the survey data items in SPSS statistical software. Due to the length of the crosstabs output only the chi square tests and symmetry tests and accompanying bar charts of the categories are reported here. The case processing summaries are not included. Some categories have less than 5 expected observations in the category, but nonetheless provide some insights into the risk areas of level of education or income where careers may be affected due to internet usage and loss of job or opportunity. The survey was conducted by Princeton Survey Research associates international (PSRAI).

Results

The following tables and charts (shown at the end of this article) present evaluative findings for the effects of age, income and educational level on internet usage and loss of job or employment opportunity.
The evaluation identifies that those with high school diplomas or equivalent are more likely to lose job or career opportunities from online or internet activities, though those involved in the educational process as adults also remain at risk during their professional development years.

The evaluation further identifies that those surveyed in the mid to upper middle class and entry level professional salary ranges are also at increases risk of losing job or employment opportunities related to online or internet activities.

Relative to age evaluation of the survey data suggest that risk of job or employment opportunities substantially increase near completion of high school and remain elevated throughout adult careers with greater risk periods in the early 30’s and at about 50 years of age. These correspond to the approximate age for professional career entry and for those who began their professional career entry in the late 1990’s as online and internet activity in adult careers became more common.

Discussion
E- Professionalism and internet usage, is an emerging construct in effective career development and employment effectiveness., in an emerging information revolution likely to eclipse the effects of the earlier industrial revolution upon individual and collective life trajectories. Age, education level and income act as elements of risk or success in developing and effective online personal and professional persona. Professional students and those wishing to advance in professions will need to develop skills in personal information and reputation management in addition to skills required for success along traditional dimension for ones life’s work.

References


Table 1:
Observed vs Expected Frequencies for education, Internet use and lost job opportunity

<table>
<thead>
<tr>
<th>Chi-Square Tests</th>
<th>Value</th>
<th>df</th>
<th>Asymp. Sig. (2-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>81.708$^a$</td>
<td>16</td>
<td>.000</td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>66.410</td>
<td>16</td>
<td>.000</td>
</tr>
<tr>
<td>Linear-by-Linear Association</td>
<td>.281</td>
<td>1</td>
<td>.596</td>
</tr>
</tbody>
</table>

N of Valid Cases 2759

a. 12 cells (44.4%) have expected count less than 5. The minimum expected count is .04.

Symmetric Measures

<table>
<thead>
<tr>
<th>Value</th>
<th>Approx. Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phi</td>
<td>.172  .000</td>
</tr>
<tr>
<td>Cramer's V</td>
<td>.122  .000</td>
</tr>
</tbody>
</table>

N of Valid Cases 2759
Table 2:  
*Observed vs Expected Frequencies for income, Internet use and lost job opportunity*

### Chi-Square Tests

<table>
<thead>
<tr>
<th></th>
<th>Value</th>
<th>df</th>
<th>Asymp. Sig. (2-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>94.930a</td>
<td>18</td>
<td>.000</td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>94.452</td>
<td>18</td>
<td>.000</td>
</tr>
<tr>
<td>Linear-by-Linear Association</td>
<td>.281</td>
<td>1</td>
<td>.596</td>
</tr>
<tr>
<td>N of Valid Cases</td>
<td></td>
<td></td>
<td>2756</td>
</tr>
</tbody>
</table>

a. 19 cells (63.3%) have expected count less than 5. The minimum expected count is 1.57.

### Symmetric Measures

<table>
<thead>
<tr>
<th></th>
<th>Value</th>
<th>Approx. Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal by Phi</td>
<td>.186</td>
<td>.000</td>
</tr>
<tr>
<td>Nominal Cramer's V</td>
<td>.131</td>
<td>.000</td>
</tr>
<tr>
<td>N of Valid Cases</td>
<td>2756</td>
<td></td>
</tr>
</tbody>
</table>
Table 3:  
*Observed vs Expected Frequencies for age, Internet use and lost job opportunity*

<table>
<thead>
<tr>
<th></th>
<th>Asymp. Sig. (2-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Chi-Square Tests</strong></td>
<td></td>
</tr>
<tr>
<td>Pearson Chi-Square</td>
<td>574.830&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>285.430</td>
</tr>
<tr>
<td>Linear-by-Linear</td>
<td>7.725</td>
</tr>
<tr>
<td>Association</td>
<td></td>
</tr>
<tr>
<td>N of Valid Cases</td>
<td>2757</td>
</tr>
</tbody>
</table>

<sup>a</sup> 153 cells (70.8%) have expected count less than 5. The minimum expected count is .02.

<table>
<thead>
<tr>
<th></th>
<th>Approx. Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Symmetric Measures</strong></td>
<td></td>
</tr>
<tr>
<td>Nominal by Nominal</td>
<td></td>
</tr>
<tr>
<td>Phi</td>
<td>.457</td>
</tr>
<tr>
<td>Cramer's V</td>
<td>.323</td>
</tr>
<tr>
<td>N of Valid Cases</td>
<td>2757</td>
</tr>
</tbody>
</table>
Figure 1: Histogram of education vs frequency of internet use and lost job opportunity

(Source: Pew Research Center’s Internet & American Life Project Omnibus Survey, conducted July 11-14, 2013, on landline and cell phones. N=792 for internet users and smartphone owners. Interviews were conducted in English on landline and cell phones. The margin of error on the sample is +/- 3.8 percentage points)
Figure 2: Histogram of income vs frequency of internet use and lost job opportunity

(Source: Pew Research Center’s Internet & American Life Project Omnibus Survey, conducted July 11-14, 2013, on landline and cell phones. N=792 for internet users or smartphone owners. Interviews were conducted in English on landline and cell phones. The margin of error on the sample is +/- 3.8 percentage points.)
Figure 3: Histogram of age vs frequency of internet use and lost job opportunity

(Source: Pew Research Center’s Internet & American Life Project Omnibus Survey, conducted July 11-14, 2013, on landline and cell phones. N=792 for internet users and smartphone owners. Interviews were conducted in English on landline and cell phones. The margin of error on the sample is +/- 3.8 percentage points)
Framing the Debate Over State Constitutional Amendment Proposals, 2014: The Case of Tennessee

Christopher Baxter
The University of Tennessee at Martin
Tennessee voters faced complex proposals on issues like abortion and judicial selection in 2014. This paper studies the how these debates were framed in the media and analyzes the forces that ultimately decided the outcomes of these proposals. While precise issues addressed in the four proposed constitutional amendments were complex ones requiring a voter to have a significant amount of contextual information to be able to make an informed decision, the advertising campaigns mounted by the various interests involved in the debates tended to be relatively two-dimensional. The campaigns appealed to general pre-existing voter attitudes rather attempting to educate voters on the policy details involved in the proposals. The ultimate approval of all four proposals challenges some of the existing literature’s assumptions about how low-information voters behave when facing complex ballot items.

Literature Review

While the virtues of allowing the will of the people to be expressed through ballot initiatives and referendums are largely unquestioned, there is reason to question whether the final vote on ballot measures are worded in a way that truly does reflect the will of the people. When voters are aware of the content of ballot measures and their policy impacts, they are capable of forming rational opinions based on their own preferences. While much of the literature leads us to believe that vote decisions are dominated by party cues, Boudreau and MacKenzie (2014) used an experimental design to demonstrate that “when respondents receive policy information that conflicts with their own party’s positions on the initiatives, the policy information counteracts the effects of party cues” (49), leading them to express attitudes contrary to the position of their party. This effect was “most pronounced on policy issues where respondents lack[ed] strong prior attitudes” (49). Thus, we know that voters are capable of being educated about the substance and impacts of ballot measures and that they able to form their own opinions about them. Unfortunately, we also know that a significant number of voters have little interest in or knowledge of politics and political issues (e.g., Delli Carpini and Keeter 1996). Further, even for those voters who are receptive to information about the issues, there is concern that the information they are receiving comes largely from the advertising of interest groups advocating for or against passage of the measures, which obviously may provide voters a biased or incomplete base of information.

Voters’ Limitations

Even more troubling, there is reason to question whether voters truly comprehend the meaning and scope of the language contained in the complex legal wording of many ballot measures. Reilly and Richey (2011) noted that these proposals “ask the public about a variety of policies with few heuristics such as party identification or incumbency. In addition to these cognitive difficulties, they often feature obscure and legalistic language that is difficult to comprehend” (59). In their study of how language complexity affects voter “roll-off” (i.e., individuals choosing not to vote for ballot measures after voting for higher offices on the ballot), Reilly and Richey found that while the median Georgia resident read at the eighth-grade level, the wording of most ballot measures in Georgia was at a significantly higher level. In their evaluation of 1,211 ballot questions from 1997 to 2007, they confirmed their hypothesis that the more complex the wording
of the item, the higher the voter roll-off. Many voters simply choose not to vote for or against an item they do not completely understand, yielding a smaller percentage of the population weighing in on the item. Reilly and Richey found no pattern in the readability of measures based on their subject matter (e.g., measures relating to taxation as opposed to agriculture or health), but individual measures obviously may vary significantly in their complexity.

Ballot position has also long been demonstrated to affect roll-off as well; the evidence clearly demonstrates that the longer the ballot and the farther down on the ballot an item resides, the greater the likelihood of roll-off from that item. Brockington (2003) attempted a more complete explanation of the phenomenon by tying roll-off to an informational “fatigue” rather than simply a voter's impatience with a long ballot. Even when voters have limited information about candidates, they regularly supplement their knowledge with heuristics such as party identification to make more rational choices. As such heuristics are of no help on ballot measures, voters may then base their decision on their available issue information; while not engaging in perfect rationality, voters are capable of “satisficing” with the information they have available. In general, voters' behavior is guided by the amount and quality of the information they have available, information which is usually derived from three sources in decreasing order of efficacy: the voter's research and exposure (including advertising) prior to the election; secondary cues like party labels or biases (e.g., gender and ethnicity), and tertiary cues such as ballot position. As low-information voters proceed through the ballot's list of candidates and ballot measures, they may exhaust both their information and heuristic clues, at which point they become “fatigued” and roll off.

Brockington's theory builds on earlier research on fatigue by Bowler, Donovan and Happ (1992), who view completing a ballot in terms of the costs to the voter. Considering that the decision to vote at all incurs the largest cost, “[o]nce a voter has arrived at the voting booth the costs of actually marking a ballot would seem to be trivial relative to the costs of actually turning out to vote” (559). They acknowledge, however, that longer and/or more complex ballots demand more of voters and exact more of a cost from them, and rolling off is a method of minimizing such costs. There is more than one feasible strategy for minimizing the costs; some voters may choose a position effect-based strategy that would lead them to forego the measures at the bottom of the ballot, while others, consistent with Brockington's low information theory, might seek out the ballot items for which they have some information and omit the ones for which they have none. In the latter case, one should expect voters to be more likely to respond to ballot measures that have been the subject of advertising than those that have not. Advertising, whether for or against the ballot measure, would minimize the costs to the voter of making a vote decision on that particular measure. Similarly, longer or wordier proposals, as they are more costly to the voter, should increase the frequency of roll-off (see also Magleby 1984). Bowler, Donovan, and Happ suggest that some voters may engage in another cost-minimizing strategy other than roll-off: simply voting “no.” They liken a no vote to an incumbency effect for propositions; in being asked to make a decision about a measure that the voter knows little about, voting no is essentially voting for no change and maintaining the status quo.

In testing for these strategies using data from California ballot propositions from 1974-1988, Bowler, Donovan, and Happ found strong evidence for their hypotheses.
They found evidence of roll-off based on position, but they found that voters were more likely to skip propositions in the middle of the ballot and vote for those at the end. While voters were more likely to respond to the last propositions on the ballot, they were also more likely to vote “no” on those propositions, providing support for their quasi-incumbency hypothesis (i.e., when in doubt, vote for the status quo). They also found a correlation between advertising (measured by the level of campaign spending for or against the proposition) and decreased roll-off; voters were more likely to respond to measures with greater exposure in the media (and spending against propositions was specifically linked to an increase in “no” votes). Election-specific variables also affected roll-off; as higher-turnout elections tend to increase the number of lower-informed voters, roll-off was found to be higher in high-turnout elections.

**Advertising and Information**

While television advertising alone cannot be definitively identified as a major determinant of voter behavior, particularly with the availability of so many cues in partisan races, we should expect ads to be a relatively greater influence on ballot measures since those cues are generally not available. We can logically hypothesize that ads will increase both (1) the voter’s awareness of the issue and (2) the direction of his or her opinion on the measure itself. While the impact of increased advertising on awareness is intuitive, measuring how much of an impact the advertising has on attitudes and actual votes is more problematic. The ads themselves may feature prominent politicians who are widely known to be affiliated with parties or groups, providing cues that may be more influential than the substance of the ads themselves. Further, voters may assume that advertising is fundamentally biased and ignore or discount its message; Bowler and Donovan (2002) cite a poll in Washington in which 80 percent of respondents agreed with the statement “initiative advertisements and campaigns are misleading” (781). (There is strong evidence that the voters are correct in assuming such advertising is often false or misleading; see, e.g., Kruse 2001). In some situations, however, the impact of advertising on voting on ballot measures should be expected to be higher than in any other context, particularly for “hard” issues. Some measures are “hard” in that they deal with relatively specific, complex, and/or nuanced changes to policy, changes that do not lend themselves to easy explanation during a 30-second advertisement. Such measures may be further complicated in the voter’s mind by the fact that the issue does not fall neatly along a familiar partisan cleavage that would allow him to utilize a cue. In their study of voter attitudes toward citizen-initiated referendums, Bowler and Donovan (2002) found that while ads increased the visibility of the measure, most respondents reported using multiple sources of information in forming their opinions. These alternative sources may contain factual and relatively more objective information, or they may simply refer the voter to familiar cues.

With so much of the literature documenting voters’ ignorance and their propensity to take cues, when a complex measure is on the ballot, it is tempting to simply assume that most voters will cast uninformed votes. Lupia (1994), however, demonstrated that low-information voters are capable of using shortcuts to emulate the behavior of voters with much higher levels of information. In his study of attitudes toward California ballot initiatives on insurance reform, he did indeed find that many voters had little factual knowledge of the issues underlying the propositions, but when they were able to identify
the positions of elites (e.g., the insurance industry or consumer advocates) on those measures, the behavior of the low-information voters tended to mirror those of informed voters in terms of voting consistently with their own interests. In Lupia’s words, while the voters themselves were not “encyclopedias” of knowledge on the measures, with the use of simple shortcuts, their votes made them appear as if they were. While Lupia’s findings in a basic sense simply tend to reaffirm the cue-taking literature, his results do suggest a higher degree of strategy in voters’ behavior than previous literature had suggested, if only in the sense that the voters in his study were capable of identifying “winners” and “losers” in the ballot measures.

The Case of Tennessee, November 2014

The Amendments

The Tennessee Constitution allows for amendments to be added after a vote of the people during a general gubernatorial election. To be added to the ballot, the measure must have been approved by two consecutive General Assemblies (Tennessee’s Constitution does not provide for an initiative process; all amendments must either be proposed by the legislature or a constitutional convention.). During its first consideration, both houses of the legislature must approve the measure by a majority vote; then, after the next general election, when a new General Assembly has been seated, the measure must again be approved by a two-thirds majority in each house. The proposal is then placed on the ballot of the next gubernatorial election, at which time it must receive a popular vote equal to a majority of those who vote in the gubernatorial race.

In 2014, four proposed constitutional amendments were put to the voters after having navigated their way through this process. The nature and complexity of the issues in these four proposals provide an interesting case for analyzing the impact of the factors discussed in the literature review above. The topics ranged from abortion to judicial selection to tax policy; the complexity of the items ran from the very straightforward to the very nuanced.

Amendment 1 dealt with abortion, which, while obviously a visible topic, was approached here in a way that required some knowledge of both history and jurisprudence. The proposal seemed straightforward enough:

“Nothing in this Constitution secures or protects a right to abortion or requires the funding of an abortion. The people retain the right through their elected state representatives and state senators to enact, amend, or repeal statutes regarding abortion, including, but not limited to, circumstances of pregnancy resulting from rape or incest or when necessary to save the life of the mother.”

The amendment was prompted by a decision of the Tennessee Supreme Court from 2000, Planned Parenthood v. Sundquist, in which the court declared that a woman’s rights to an abortion were protected as basic liberties rooted in the language of the state’s constitution, rights with broader protections than those found in the U.S. Constitution (or, more specifically, broader that how current federal courts are interpreting the U.S. Constitution). The proposed amendment would undo this ruling
and insert clear language stating that the Tennessee Constitution contains no protections dealing with abortion rights, leaving the legislature free to regulate abortion as it chooses. Effectively, the proposal removed any special privacy rights that might have been found in the state Constitution, placing abortion rights in Tennessee in the same status as those of most of the other states, i.e., subject to the federal courts' interpretation of privacy in *Roe v. Wade* and its progeny. While “new judicial federalism,” the idea of civil liberties having two distinct bases (state and federal), is not a new concept in law or politics (Emmert and Traut 1992), it is highly questionable whether the concept is widely understood in the general population or if the majority of Tennessee voters knew the entire “backstory” of how this concept created the need for Amendment 1 in the first place. This assumption seems supported by the fact that during the public debate over Amendment 1, advertising by both sides largely ignored the “procedural” aspects of the proposal and framed the debate along the traditional “pro-choice” vs. “pro-life” debate, as we will see.

Amendment 2 proposed to change how all Tennessee appellate judges were elected, moving the state from a “Missouri Plan”-type merit system to one in which the governor appoints appellate judges with the consent of both houses of the General Assembly. Amendment 3 proposed to ban the imposition of any broad-based income tax (exempting the existing Hall Income Tax, which taxes dividends from investments). State courts had historically ruled an income tax to be contrary to the state Constitution, but opinions of the state attorney general suggested that legislative proposals in the early 2000s to enact an income tax might be constitutional. The sponsors of Amendment 3 wished to clearly state that any such tax would be impermissible. Finally, Amendment 4 created a process by which 501(c)(3) and 501(c)(19) organizations could legally conduct annual lotteries if approved by a two-thirds vote of the legislature. While the Amendment did not specifically explain the fact, the organizations are simply veteran-affiliated nonprofit groups. The fact that the word “veterans” did not even appear in the Amendment led its Senate sponsor to fear, “People won't know what's going on” (Sher 2014).

In some ways, the election of 2014 in Tennessee was well-suited for a study of voter reaction to ballot proposals. The amendments were on the same ballot as a governor’s race and a U.S. Senate race, but both races featured “safe” incumbents in races that yielded relatively low levels of spending and public attention. Thus, advocates for and against the four amendments faced little competition with candidates for advertising time or public attention.

**Framing the Debate**

Amendment 1 on abortion elicited far more spending by interested groups than any of the other issues. Early estimates indicated that almost $6.5 million was spent in advocacy on Amendment 1 alone. PACs supporting Amendment 1 reported spending almost $2 million for the entire election cycle, while groups opposing it reported spending approximately $4.4 million. Advertising on television and radio and in newspapers was common statewide, and websites were created and maintained by groups on both sides of the issue. Despite the abundance of advertising, the substance of the advertising by both sides did little to educate the voters. Typical ads for the pro-Amendment 1 groups promoted the measure as giving the legislature the power to make “common sense” regulations of facilities and of abortion procedures. Perhaps the
most-cited advertisement was a television ad in which a recording of a 911 call from an abortion clinic was prominently featured; the implication of the ad was that abortion clinics were unsafe and under-regulated and that Amendment 1 would address these dangers. Opponents of the proposal commonly attacked it as an attempt to make it difficult if not impossible to obtain an abortion in the state. Neither side made any significant effort to clarify the specific legal changes proposed by the amendment. Discussion of the Planned Parenthood v. Sundquist decision was scarce; the website for Planned Parenthood itself explained the decision, but only if the viewer followed a link from its main advocacy page.

In is difficult to assess what voters hoped to achieve by voting either for or against the measure, as the data available seem contradictory if not puzzling. In May of 2014, Vanderbilt University conducted a statewide poll in which it asked voters the following question:

“This fall, Tennessee residents will be asked to vote on an amendment to the state constitution that would give the state legislature more power to regulate abortions. Do you favor giving the state legislature the constitutional authority to regulate abortions, or do you oppose this?”

Respondents in May overwhelmingly answered no to this question, 71% to 23%. Tennessee is widely accepted as a conservative state with a substantial pro-life voter population. When the focus of the question seems to be whether the legislature should be given more power, the responses are strongly negative. One might reasonably infer that respondents were reacting to the idea of allowing the legislature to regulate abortion (e.g., as opposed to the courts). While the poll question accurately reflects the general intent of the Amendment, it omits specific language found on the ballot measure itself which includes the wording “statutes regarding abortion, including, but not limited to, circumstances of pregnancy resulting from rape or incest or when necessary to save the life of the mother.” In the actual November election, Tennessee voters supported Amendment 1 by a vote of 53% to 47%. Obviously six months of advertising could have had a significant impact on attitudes (despite the fact that the anti-amendment advertising was twice that of the pro-amendment spending), but this dramatic change opens the question of whether the difference in wording might reveal some confusion on the part of the voters. The words “rape,” “incest,” and “life of the mother” are often used in abortion debates to denote exemptions to when abortions should be banned; that is, moderates on the abortion issue may be more supportive of limiting abortions if these “reasonable” exemptions are maintained. A closer reading of the amendment, however, shows that the amendment allows the legislature to “enact . . . or repeal” restrictions of this nature; the additional language serves to expand the legislature’s powers, not limit them. This makes the apparent shift in voter opinion all the more remarkable.

As noted earlier, there was significantly less advertising for the other three ballot measures. There was elite support for Amendment 2 on judicial selection; the governor and the speakers of both houses of the legislature, all Republicans, publicly endorsed the measures, as did the previous Democratic governor. Amendments 3 and 4 received minimal attention by either the news media or organized groups.
Data and Analysis

Turnout in the November 2014 election continued a trend of decline (Table 1). The Secretary of State’s office reported that just under 36% of registered voters turned out to vote, down five percentage points from the previous gubernatorial/midterm election and almost fifteen percentage points from eight years before. While a worthy topic of study itself, in this study this low turnout will be relevant in how hypotheses regarding voter behavior will be formulated. The four proposals were conveniently ordered on the ballot to test for voter roll-off, in that the issues were listed in decreasing order of public familiarity. The abortion amendment was easily the most visible prior to the election, while the proposal on nonprofits was the least known and understood. The literature on roll-off due specifically to fatigue is least relevant here; those who were motivated enough to participate will presumably be willing to make it through a short list of four items. The real test is whether voters will be put off by the relative lack of familiarity with the nonprofit item and possibly the judicial selection item. Literature on voting in states who allow the initiative process would suggest lowering our expectations based on Tennessee’s institutional arrangements. The fact that Tennessee’s measures are legislatively proposed rather than initiative-based decreases the likelihood of voter exposure to the issue prior to the election (e.g., a California voter may have been asked to sign a petition before the measure was placed on the ballot). However, with a lower number of voters, the relative number of low-information voters is presumably significantly lower as well; those few who were mobilized enough to vote in an election with virtually no competitive statewide races can be assumed to be regular and moderately- to well-informed voters. Thus, based on the research of Lupia (1994) and others, I would expect that voters would be able to piece together enough cues from the items to make a reasonably informed decision (guess?) as to how they should vote consistent with their policy preferences. I hypothesize that voter roll-off will be less than in a typical election, with most participants voting on Amendments 1 and 3 and with possibly some roll-off on Amendment 2. The greatest roll-off would be expected in voter engagement of intimidating language of Amendment 4.

The actual results of the November voting met expectations, with one or two interesting exceptions. As seen in Table 2, all four of the proposals were approved by the voters. As noted earlier, the victory of the abortion amendment was a significant reversal of early polling numbers, so the campaign season clearly affected voter perceptions and attitudes. Amendment 1 predictably garnered the greatest number of votes cast. While there was demonstrable roll-off as voters proceeded through the ballot, the total roll-off was not dramatic; the difference in participation between Amendments 1 and 4, the highest and lowest, was a decline of 6 percent. While I did not expect simple fatigue to be a factor, it appears to have been so. While the research of Bowler et al. (1992) suggests that voters will “scan” for issues they recognize rather than “trail off,” the evidence does not support this. The income tax amendment, a simpler and presumably far more familiar topic for the average voter, elicited a smaller response than did the longer judicial selection amendment. This counterintuitive finding raises the possibility of a technical issue that may interfere with voter “scanning:” the use of “touchscreen” voting machines found in Tennessee. While these devices do
allow users to move forward and back among ballot items, the added difficulty in doing so may make “scanning” a more difficult and therefore less common strategy for voters.

The data contradict another hypothesis derived from the literature, that of individuals voting “no” for unfamiliar items. Bowler et al. (1992) asserted that when voters are faced with an unfamiliar ballot item, they tend to vote “no” for the sake of maintaining the status quo, comparable to voters supporting the incumbent rather than supporting an unknown variable. In this case, voters seemed to do just the opposite; Amendment 4 was approved with the largest margin of any of the four proposals. Two possible explanations immediately emerge. First, as this is the last amendment on the ballot, those who have not yet “rolled off” are voters with higher levels of information and do in fact recognize and understand the issue. While a plausible argument, it is contradicted by anecdotal polling just prior to the election which indicated an extremely low level of familiarity with Amendment 4 among voters. A second and perhaps more intriguing possibility is that voters' presumptions have shifted since Bower et al.'s study in 1992, and now voters' natural predisposition is to support change rather than the status quo. In this particular election, since a majority of voters had supported the previous three amendments, by the time they reached the fourth a “response set” effect may have set in with many voters. In either case, this apparent tendency to vote “yes” is a departure from what the literature would lead us to predict, and it is worthy of future study.

In conclusion, the data on the amendment proposals on the 2014 ballot in Tennessee added fuel to the ongoing concerns many have expressed about whether the public will is truly being expressed in these referenda. The wording of the ballot items raises legitimate concerns as to whether voters understand, or were meant to understand, the meanings of the proposals. When the voters themselves are unsure of their meaning, it is clear that they simply move on, or “roll off.” While this may be a rational reaction in one sense, the fact that the manner in which these ballot measures are presented gives voters an incentive not to participate should create concerns for anyone who values the democratic process, and it certainly justifies further study.

References


Sher, Andy. “Gaming fundraisers spotlighted in Amendment 4 question before voters.” Knoxville News Sentinel, October 1, 2014

Table 1: Voter Turnout in Recent Tennessee Elections

| Voter Turnout Rates in Tennessee Elections (as a percentage of registered voters) |
| 2014 Gub/Mid-Term | 35.97% |
| 2012 Presidential | 61.86% |
| 2010 Gub/Mid-Term | 41.32% |
| 2008 Presidential | 66.34% |
| 2006 Gub/Mid-Term | 49.97% |
| 2004 Presidential | 66.32% |
| 2002 Gub/Mid-Term | 50.40% |

Table 2: Official Results of the Nov. 4, 2014 Tennessee General Election - Constitutional Amendments
(Note: Total votes cast for Governor: 1,353,728)

<table>
<thead>
<tr>
<th>For</th>
<th>Against</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amendment 1 (abortion)</td>
<td>729,163 (53%)</td>
<td>657,192 (47%)</td>
</tr>
<tr>
<td>Amendment 2 (judicial selection)</td>
<td>832,188 (61%)</td>
<td>533,973 (39%)</td>
</tr>
<tr>
<td>Amendment 3 (income tax ban)</td>
<td>882,926 (66%)</td>
<td>450,522 (34%)</td>
</tr>
<tr>
<td>Amendment 4 (lotteries for nonprofits)</td>
<td>903,353 (70%)</td>
<td>394,727 (30%)</td>
</tr>
</tbody>
</table>
A King-Sized Problem!

Sue Burum
Minnesota State University, Mankato
Introduction

In November 1882, the comic opera *Iolanthe* (*Gilbert, 1986*), with music by Gilbert and Sullivan, opened in London. The story involved a group of immortal fairies. They had a law that said that any fairy that married a mortal would die. Iolanthe broke that law, but so did all the other fairies. The Fairy Queen did not know what to do, as she did not want to kill the entire band of fairies. The Lord Chancellor came to the rescue. He discovered that the emergency was actually very simple to resolve. All one had to do was change one word in the law. The law simply had to be changed to read that any fairy that *doesn't* marry a mortal would die. Problem solved! Just add one simple word. *Iolanthe* satirizes aspects of the British government and the law. However, the story is timeless and can be used today to satirize many other societies’ laws. In 1980, Associate Justice Rehnquist compared the majority opinion to the hubris of the Lord Chancellor in *Richmond Newspapers, Inc. v. Virginia* (*Richmond, 1980*). Today, some would say we have another example. The Patient Protection and Affordable Care Act implies that subsidies just go to people who purchase insurance through an exchange program established by the state. Following this section of Obamacare as written would create king-sized problems. The Internal Revenue Service solved this problem by simply interpreting the section to mean exchanges established by the state or federal government could receive subsidies (*IRS, 2012*). Again, problem solved. Just add three simple words. This paper will consider the arguments for and against this type of word change as well as consider the king-sized problems that can happen if the law is either not changed or changed through simple IRS interpretation.

Background

On November 7, 2014, the U.S. Supreme Court granted certiorari in the case *King v. Burwell* (*King, 2015*). The case challenged the IRS’s interpretation of Obamacare (the Affordable Care Act), which concluded that people who bought health insurance through Healthcare.gov, the federal exchange, could get the same federal subsidies as people who bought policies through state exchanges. The U.S. Court of Appeals for the Fourth Circuit (*King, 2014*) on July 22, 2014 agreed with the IRS that that the subsidies could extend to exchanges established by the federal government. The court found that the statute in question was ambiguous and subject to at least two different interpretations. Therefore, the court deferred to the IRS since the IRS’s interpretation was considered reasonable in that it advanced the broad policy goals of the act. Also on July 22, 2014, the U.S. Court of Appeals for the District of Columbia Circuit (*Halbig, 2014*) came to the opposite conclusion in the case of *Halbig v. Burwell*. In that case, the court decided through a plain reading of the text in Obamacare that the IRS did not have the statutory power to grant subsidies to purchases through insurance markets established by the federal government. The Supreme Court granted certiorari since two different circuits of the Court of Appeals came to opposite conclusions. Two other cases, *Pruitt v. Burwell* and *Indiana v. IRS*, were in the District Court stages. Those cases asked the same question and were put on hold pending the outcome in the *King* case. In accepting the *King* case, the Supreme Court characterized the issue in the case as one of statutory interpretation with the sole question being whether subsidies granted to people purchasing healthcare through state exchanges can extend to those purchasing the
policies through federal exchanges. The Supreme Court heard oral arguments in the case March 4, 2015, and the case should be decided sometime later in June 2015.

**Relevant Sections and Cases**

Section 1311 of Obamacare describes the process for a state to create a healthcare exchange. Section 1321 requires the federal government to establish an exchange if the state does not establish one. Section 1401 provides tax credits for individuals who purchase insurance through “exchanges established by the State under Section 1311.” It does not say anything about exchanges created under 1321 being eligible for the subsidies (PPACA, 2010). In May 2012, the IRS, the agency administering Obamacare, issued regulations permitting tax credits (subsidies) to be awarded to people purchasing health insurance through federally created exchanges (IRS, 2012).

In *Chevron U.S.A., Inc. v. Natural Resources Defense Council, Inc.* (Chevron, 1984), the U.S. Supreme Court established a test for determining whether to grant deference to a government agency’s interpretation of a statute that it administers. Justice John Paul Stevens, writing for the majority, created a two-part test for courts to use when deciding whether the agency’s interpretation should be upheld. First, the reviewing court must decide whether Congress has directly spoken on the precise matter at issue. If the intent of Congress is clear, both the reviewing court and the agency must follow Congress’ clear intent. Second, if the reviewing court determines that Congress did not address the precise issue in question or that Congress was ambiguous, then the court cannot simply impose its own construction on the statute. Rather, the issue for the court becomes whether the agency’s answer is based on a permissible construction of the statute. Administrative agencies are empowered to fill in gaps left by Congress in statutes. In *Chevron*, the U.S. Supreme Court agreed with the Court of Appeals that Congress did not have any intent on the matter before the court. However, the Supreme Court concluded that the appeals court could not decide whether the program choice in question was appropriate. There were many policy choices for the agency to choose from. All appeals courts need to defer in the future to the agency’s judgment on its choice of statute interpretation as long as the agency’s action is a reasonable policy choice for the agency to make.

**Plaintiff’s Arguments For Not Allowing Subsidies To Be Extended**

The plaintiffs argued that the language in the relevant sections is clear in its semantics. Congress provided subsidies only for policies purchased on state exchanges. This is also precisely what Congress intended. There was no mistake on Congress’ part. First, the plaintiff in the *King* case argued that a plain reading of the statute indicates that state exchanges and federal exchanges are two different things. Clearly, the subsidy only applies to state exchanges. Jonathan Adler, a Case Western University law professor, testified before a House subcommittee on July 31, 2013 that there was a significant difference between federal and state exchanges and that purchases from federal exchanges do not qualify for subsidies (Sparks, 2014). While arguments can always be made through an overly creative use of alternative definitions to try to change the meaning of a statute, the plain language in this statute is clear and should govern its meaning. If not, courts will become the lawmaking as well as the law-interpreting branch of government. People will never know the exact interpretation
simply by reading the law. This inevitably will lead to chaos. Second, the IRS’s interpretation of the law is arbitrary, not reasonable, and not permissible. There is no Congressional authority for the IRS to extend the subsidies to policies bought through federal exchanges. Congress is clear in its language and intent. The phrase ‘Exchange established by a State’ under Section 1311 is clear. It does not include exchanges established by the federal government. The states and the federal government are two different things. There are no policy choices for the IRS to make, as there are no gaps to fill. But, the government will argue that Obamacare could fail if the Court does not act. Even if the law is unworkable as written, it is Congress’ job to fix the law. Neither the IRS nor the courts should have the authority to rewrite the law.

There is no reason to probe into Congressional intent when the relevant sections were debated or when the statute in general was passed. First, Congress is made up of many individuals. It is simply not possible to know why each person voted the way they did. Legislating often involves compromises. The individual intent of some of the members of Congress should not govern. Second, when deciding whether a statute is clear or what a section means, the language in a section governs. Section headings cannot be used to contradict the language that is used within the section’s content. Headings do not control the sections’ meanings. Finally, the Court needs to exercise judicial restraint. If one uses judicial restraint, “clear statutory text should not be disregarded lightly” (Halbig, 2014). Legislative power is given to Congress alone under the Constitution. Judge Thomas Griffith from the D.C. Circuit Court of Appeals replied that a literal interpretation of the statute did not render other provisions of the Act unworkable or so unreasonable as to justify disregarding plain meaning (Halbig, 2014). The D.C. Court also saw no evidence contrary to the actual subsidy section of the Act. The drafters actually may have thought carefully about this section. They may have thought the states would simply go along if provided the carrot of subsidies to their citizens if state exchanges were established.

The case is not just about the potential survival of Obamacare. It is also about separation of powers. When Congress passes a law, an administrative agency aided by the courts cannot amend the law. Congress makes the law. Administrative agencies should just be carrying out the law or, at best, filling in gaps. They are part of the executive branch. They are not empowered to write or rewrite laws. Congress is the lawmaking branch under the Constitution. In a democracy, the people are the ultimate power. When the Constitution was established, the people delegated lawmaking power to Congress. Therefore, the people control Congress through elections. Congress establishes administrative agencies to assist in making regulations within an agencies area of expertise and within the parameters set forth by Congress when the agency was created. But this is actually a re-delegation of the lawmaking power the people gave Congress. If agencies can make whatever regulations they please, then the people lose the ability to control those who make laws. No one votes for members of administrative agencies. This could imperil the very structure of our democracy. If one president through the IRS can change the meaning of a statute passed by Congress, then the next president can do the same thing to the statute through the IRS. The Chevron case was decided to restrain a court and agency from assuming and taking over the role of Congress. When Congress has clearly spoken, the agencies and the courts cannot combine to change the will of Congress.
Finally, the *King* case also involves principles of federalism. Federalism concerns the balance of sovereign power between the states and the federal government. In 2012, the U.S. Supreme Court decided *National Federation of Independent Businesses v. Sebelius* (National, 2012). In that case, the Court upheld Obamacare under the taxing power of Congress, but not under the Commerce Clause. Also, the Court concluded that Congress exceeded its Spending Clause authority with its scheme to expand Medicare. The Court concluded Congress was unconstitutionally coercing the states to change their Medicaid programs or lose all of their federal funding for the program. Only the additional funding for Medicaid under the Affordable Care Act could be withheld. In this case, the subsidy needs to be limited to state-created exchanges. The government will argue that, if giving subsidies just to policies purchased from state exchanges is unconstitutionally coercive, the obvious remedy is to apply the subsidy to policies purchased on either state or federal exchanges. The states in this case will not argue that the policy is coercive because this is not the remedy the states desire. Also, the Court would be giving a victory to the government who created the unconstitutional coercion in the first place. The states will have a different argument if the Court believes the subsidy was designed to force the states to create exchanges. In the Affordable Care Act the mandate, that larger employers must offer insurance to their workers, only applies in states that are getting subsidies. If the state can turn down subsidies by refusing to set up a state exchange, then they can also block the mandate. If the Court rules that states without exchanges get subsidies, then the states would lose this power. The only outcome that truly empowers the states and protects federalism is for the Court to decide against expanding the subsidies to federal exchanges (Ponnuru, 2015).

**Government’s Arguments For Allowing Subsidies To Be Extended**

The government argues that Congress, as stated in the law, clearly intends for federal exchanges to be treated the same as the state exchanges. First, the word *establish* is different from the word *operate*. If a state does not create and operate its own exchange, then the residents of the state can use the federal exchange. In that case, the state established that its residents should use the federal exchange. So, both state-operated and federally operated exchanges are established by the state and eligible for subsidies (Salisbury, 2015). Second, the Affordable Care Act must be read in context. One cannot focus on one section or a few words. When read as a whole, it is clear that tax subsidies are supposed to be available nationwide, not in just a handful of states that set up state exchanges. More than fifty provisions of the law would not work if federal exchanges did not grant premium tax credits (Parnell, 2015). Third, the section questioned by petitioners is, at most, simply a typo. Through the rest of the law, federal and state exchanges are treated the same. Thus the phrase “exchange established by the state” is simply a typo in the over 900-page healthcare act. It is just five words out of over 400,000 words. It is not a constitutional dispute and should not be taking up court time. The IRS should simply be able to correct an obvious typo.

According to *Chevron* analysis, if the law is ambiguous, and the IRS gave a reasonable interpretation to the law when it extended subsidies to federal exchanges, then the IRS’s interpretation has to be respected. First, when interpreting a statute, the government argues that the courts need to evaluate not only the language contained in the statute, but also analyze beyond the text to the policy objectives that the law was
meant to achieve. The statute contains titles such as “Quality Affordable Care for All Americans” with subtitles stating “Affordable Coverage Choices for All Americans.” Furthermore, the expressed language in the act aims to make healthcare affordable for all, regardless of the state in which they live. The government also defended their case using other provisions of Obamacare, legislative history, and the broad purposes of the Act. Members of Congress who drafted Obamacare said the legislative intent clearly was not to exclude people who enrolled through the federal exchange. Representative Levin, the former Chairman of the Ways and Means Committee who helped write the act, wrote in a recent Washington Post op-ed, “Providing financial help to low and moderate income Americans was the measure’s key method of making insurance premiums affordable. Without it, millions would remain uninsured, and for them, the law would be nothing more than an empty, unfulfilled promise” (Plus, 2014).

To the government, this is not a case about separation of powers. This is a case brought forward because Republicans desire to dismantle Obamacare. President Obama, as he is currently in office, is not likely to allow Obamacare to be repealed. However, there are individuals who simply do not like a strong federal government and do not see a place for the government in areas such as healthcare. In fact, the expansion of federal agencies and their ability to regulate is often contested. Since President Franklin Roosevelt’s court-packing plan and Associate Justice Owen Roberts’ change in position in West Coast Hotel Co. v. Parish, administrative agencies and a more expansive role for the government in regulating society has been upheld by courts (West, 1937). Furthermore, the American people voted for President Obama and a Democratic Congress in 2008. In 2008, presidential-hopeful Barack Obama was an advocate for changing healthcare in the country. In addition, Americans reelected President Obama into office in 2012 despite his continued campaigning against changing his new healthcare law. Citizens in a democracy maintain control over administrative agencies through the election of the president, who is the chief executive and controls the federal agencies. There are some problems that are too big for individual states to resolve. The majority who voted in the 2008 and 2012 presidential elections understood change was needed and accepted that agencies were necessary to carry out this change. There is no modern separation of powers problem when administrative agencies act because citizens have a choice in electing a president if they do not like the current president’s use of administrative agencies.

Principles of federalism are at stake if the Court determines that the subsidy cannot extend to exchanges created by the federal government. If subsidies are not given to people who live in a state that did not create a state exchange, it could be said the federal government is being too coercive when forcing states to create exchanges. Otherwise, there would be no assistance for citizens in the state when they try to purchase healthcare. This may lead to people not purchasing insurance and simply paying the penalty instead. In this occurrence, there will be a smaller pool of people buying insurance. This will cause premiums to rise. As a result, a “death spiral” will develop in which more individuals will not be able to afford the premiums. Eventually, insurance in states using federal exchanges will collapse. The state will be forced to provide a state exchange. The penalty for not creating an exchange will be too coercive as it will be the total loss of insurance in the state. The only way to interpret the sections, and keep the sections in line with constitutional principles, is to apply the
subsidy to both state and federally created exchanges. This approach avoids interpreting the statute such that it becomes unconstitutional because of coercion (Ponnuru, 2015). Therefore, courts need to interpret statutes such that they can remain constitutional.

**Potential Implications From The Decision**

If the Court rules in favor of the plaintiffs and does not extend the subsidy to federal exchanges, the Court risks developing multiple king-sized problems. Similarly, as the Fairy Queen faced the extinction of her entire band of fairies, the entire healthcare system risks a collapse without adjusting the language to prevent a massive crisis. Sixteen states, as well as Washington, D.C., have established exchanges. The remaining 34 states have not. Obamacare will be in trouble if subsidies are not provided to people who purchase healthcare through federal exchanges. The healthy subsidize the sick and the young subsidize the old. Therefore, the more individuals can obtain health insurance, the more individuals there are to help subsidize the cost. Hospitals shift the cost of the uninsured to private or company-paid plans. That is how insurance works and that is what keeps the premiums down for all. If the Court rules for the plaintiff in *King*, the Urban Institute’s computer model suggests that there will be 8.2 million more uninsured and 35 percent higher premiums for all (Pear, 2015). When people leave the insurance pool because they cannot afford the premiums, the system could collapse. That could be true even in states that run their own exchanges, as premiums will rise to unaffordable levels. The simplest thing for Congress to do is rewrite that section of the law to make it include any exchanges, federal or state, in the ability to get subsidies. The issue of Congress rewriting the section of the federal exchange is that Republicans now control Congress. In a post-election forum, the new Majority leader, Mitch McConnell, said that if the decision went as he hoped, “I would assume that you could have a mulligan here, a major do-over of the whole thing.” The crisis created by millions losing affordable coverage could give the Republicans leverage to change the law more in line with the party’s principles. “But to make the most of that opportunity, Republicans need to translate those principles into a workable plan, and they are not there yet” (Grahm, 2014). Congress amending Obamacare could affect how some justices vote. A justice could simply conclude the potential cost of having Obamacare fail is too disruptive to the nation. Practical arguments can be persuasive. Some justices on the Supreme Court may need to see Republicans planning for fixes to feel comfortable going with a plain meaning of the statute interpretation. These Republicans will demand substantial changes to Obamacare in exchange for fixes. Currently, the President has low approval ratings, and he is in the closing period of his presidency. If threatening the states up to this point with a potential lack of subsidies was not enough to force them to create exchanges when the law was being implemented, it is unlikely further pressure from a president in a weakened position will do so now. Many of the states declined to create their own exchanges because of political and philosophical aversion to Obamacare. That is unlikely to change and subsidies are lost if the law fails.

If the court rules in favor of the government, potential concerns still arise. After Obamacare passed, the government tried to force the states to set up exchanges. Jonathan Gruber, the former advisor to the Obama administration on the healthcare
law, will play a big role in the case. Worse, comments he made about the subsidies being restricted to state-run exchanges will now come back to hurt the government. Gruber said in a 2012 video, "In the law, it says if the states don’t provide [exchanges], the federal backstop will. The federal government has been sort of slow in putting out its backstop, I think partly because they want to sort of squeeze the states to do it. I think what’s important to remember politically about this, is if you’re a state and you don’t set up an exchange, that means your citizens don’t get their tax credits" (Dobson, 2014). Gruber has tried to take these statements back, but his initial understanding of the law is now available for all citizens to review. In fact, his name is mentioned six times during the 129-page opening brief filed by the plaintiff. If the court decides for the government, then the Court could be seen as breaking down federalism and trumping state resistance by rewarding the federal government with a result it could not achieve through unconstitutional coercion. The federal government should not force the majority of the states to do its bidding. The Court could then be seen as doing the federal government’s dirty work. Courts do not like to help bullies.

Now the question remains, how will the Court decide this case? Justices Ginsburg, Breyer, Sotomayor, and Kagan will most likely decide to extend the subsidy to people who purchased insurance in the federally created exchanges. Justices Scalia, Thomas, and Alito will probably decide that the subsidies can only extend to people who live in states that established state exchanges. However, it is suggested that Chief Justice Roberts and Justice Kennedy may be the justices that could vote either way (Parnell, 2015). This being said, this author, unfortunately, does not have a crystal ball. However, the argument that statutes must be interpreted using the plain language contained in the statute is powerful. It is also the most consistent approach, if a justice subscribes to judicial restraint. When Congress speaks, the Court should give deference to Congress. It is the branch of government empowered to make laws. The only way the courts should intervene would be if the law was clearly unconstitutional. Furthermore, courts should not rewrite or create laws simply because they believe they can do better. Therefore, this is really just a case of statutory interpretation. If Congress does not like the way the Court interprets the Obamacare law, Congress can simply amend the law to say subsidies are to be given to people who purchase insurance under the state or federal exchanges. Unfortunately, things are not that simple. The two political parties, Republicans and Democrats, are fighting hard in both branches of Congress. This being said, it is possible that nothing will happen if the subsidies do not extend to federal exchanges. Despite the potential king-sized problems, neither political party appears willing to compromise. Republicans may require more changes to Obamacare in order to keep this healthcare program. However, Democrats may not accept any additional changes to Obamacare other than a simple word change. Also, the President could signal that he will veto anything more extensive. If the Court decides that the subsidies should not extend to federal exchanges, then the court may want to postpone implementing its decision for at least six months to give Congress time to act. The Court could even delay the implementation until after the 2016 election to give Congress even more time to reach a compromise and allow the people to have more say in healthcare through the presidential election. This could worry some justices though as this type of decision could hijack the 2016 election and turn the whole debate toward healthcare. It is also unlikely the Court would delay a decision for so long. What
else could Chief Justice Roberts do? Chief Justice Roberts could try a creative maneuver if he wishes to save Obamacare or fears the Court will be blamed for a complete collapse of healthcare in the country. The Chief Justice could state that laws must be interpreted plainly, as written. This would interpret the law to mean an exchange created by the federal government is not a state-created exchange. This interpretation keeps the law on the firmest ground. If the Chief Justice deferred to the government’s interpretation and said the law was ambiguous, the next administration could change the interpretation again. Therefore, the law would not really be a law. But, Chief Justice Roberts may then decide that this plain interpretation will deliver an unconstitutional result. Denying the subsidies to those who purchased healthcare from federal exchanges will result in unconstitutional coercion on the part of the federal government toward the state. States would be forced to create state exchanges or face the potential collapse of health insurance in their state. To avoid this problem, the Court could allow the subsidy to extend to people who purchased health insurance from federal exchanges—not because of the way the law was written, but to avoid unconstitutional federal coercion. This result would save traditional constitutional interpretation, reinforce that the Court practices judicial restraint when interpreting statutes, and protect the public from the potential total collapse of health insurance. This writer is not advocating this position, just seeing this option as a possibility for Chief Justice Roberts. Interpreting the law as unconstitutional would be similar to what the Chief Justice did in *National Federation of Independent Businesses* when he found mandates unconstitutional under the Commerce Clause, but constitutional under the Taxing Power.

**Conclusion**

The Obama Administration is assuming that the U.S. Supreme Court will act like the Lord Chancellor in *Iolanthe* and simply rewrite the statute. Perhaps the administration’s interpretation of the statute is correct and the law will be rewritten to include “or federal exchanges” in the section on subsidies. However, if the law *means what it says and says what it means*, the Court may not bail the Administration out of this king-sized problem. To do so could result in the charge that the Court is simply a politically activist court that assumes Congress’ role by making policy from the bench. The justices would no longer be jurists. They would become politicians in robes. This perception could lessen the authority and prestige of the Court in the eyes of many. The Court cannot enforce its own opinions. It relies on its authority and prestige to convince the people to follow its decisions. If this is lost, the Court could have king-sized problems in achieving compliance with its decisions in many other opinions. However, the Obama Administration still may not be concerned. The Administration may believe that Congress will be the Lord Chancellor and change the law. This could happen out of necessity. However, many Republicans in Congress are tired of the President acting like a king and ruling by decrees that bypass Congress. There could be a feeling that the executive branch *needs its wings clipped* despite the king-sized problem this unwillingness to act could cause. The President probably should have taken the high ground and warned people of the possible loss of subsidies and the implications of the loss. He probably should have led and brought members of Congress together to plan for a bipartisan solution to the loss of subsidies to purchasers in federal exchanges.
This would involve listening to Republican Congressmen and compromising. This activity could save the Affordable Care Act, lessen future challenges, and ensure his legacy. It would allow Republicans to make some changes and have some stake in the success of the law. However, it is always quicker and easier to simply have federal administrative agencies, like the IRS, be a president's personal Lord Chancellor. All worked out well for the fairies in *Iolanthe*. It is not too late for bipartisan compromise and revisions in Congress. It is not too late for the President to sign those changes into law. There should be no Lord Chancellor-IRS or Court fix. Things would be better if “the House of Peers withholds/ Its legislative hand/ And noble statesmen do not itch/ To interfere with matters which/ They do not understand” (Orient, 2015).
References
King v. Burwell, 759 F.3d 358 (4th Cir. 2014).
West Coast Hotel Co. v. Parrish, 300 U.S. 379 (1937).
Online Degrees Versus Traditional:  
Is There a Hiring Bias:  
How Can Higher Education Leadership Help in this Dilemma?

Sandy Cortez-Rucker  
Vance Cortez-Rucker  
Lamar University
The topic of hiring bias for individuals with online degrees versus traditional is one that affects almost all institutions of higher learning and the clientele they serve. Students graduating with an online degree must know that their degree will gain them advancement within their career; otherwise, they will find other means to make their career move forward, probably without a degree.

**Background**

The increasing role of online education and the accreditation of current professionals leads to the question of acceptability and has been a topic of discussion among educators in the last 20 years (Adams, 2008; Adams & DeFleur, 2005; Allen & Seaman, 2013; Bailey & Flegie, 2012; Chickering & Gamson, 1987; Columbaro & Monaghan, 2009; Lorenzo, 2008; Peat & Helland, 2004; Rivera, 2007; Toppo & Schnaars, 2012; Udegbe, 2012; Whisler, 2012; Young, 2002). From the examination of resources, the trend appears to be toward online degree programs, though the quality of education is viewed as lower than a traditional degree program (Baily & Flegie, 2012). Research also indicates a bias toward the hiring of individuals with online degrees, even though the extent to which this is occurring is diminishing as more and more individuals enter into online education (Adams & DeFleur, 2005; Columbaro & Monaghan, 2009; Lorenzo, 2008; Udegbe, 2012).

A survey by Vault.com of 239 human resource professionals revealed that 37% of respondents believed that an online graduate degree was as credible as a traditional degree while 54% felt that online degrees were only acceptable and not as educationally sound as traditional degrees (Glover, 2005). In another study, Read (2006) found that approximately 96% of employers would choose traditional applicants over online graduates to fill positions. Contrary to some skeptics’ concerns about online degrees, the study revealed that most of the top online educator preparatory programs were of high quality and accredited in a manner consistent with that of traditional education programs (Toppo & Schnaars, 2012).

Bailey and Flegle (2012) focused on the value-added concept of online degrees. They attempted to determine what identifying factors, or added values, were considered by potential employers when reviewing applications who earned online degrees. Regarding the possibility of added value, the hiring managers identified the following factors: school accreditations, school recognition, group interaction, real-life scenarios, and group projects. The report further stated that hiring managers were evenly split concerning the value of online or traditional degrees. While the results indicated a shift toward the acceptance of online degrees, questions of bias about how the degrees were completed remains largely unsettled.

The Society for Human Resource Management (2010) provided survey results garnered from human resource professionals. These survey questions clearly indicated the vacillation between positive and negative perceptions about the suitability of candidates for hire who possessed online degrees. When determining whether or not online education differed in quality from traditional face-to-face education, 44% of the human resource professionals argued that a difference existed, while 35% disagreed. Also, 42% of managers felt that graduate students with traditional degrees communicated more effectively than those with online degrees; 41% of the respondents disagreed.
Guendoo’s (2008) research indicated a persistent hiring bias within any field of study when the applicant held an online degree, and found that 98% of survey respondents indicated a preference for applicants holding traditional degrees over those holding online degrees. He reported that 85% of those surveyed had doubts about the quality of online educational experiences. Respondents’ concerns included quality of instruction and questions about the opportunity to rigorously interact with other students in the programs.

According to research by Lorenzo (2008), Columbaro and Monaghan (2009), Bailey and Flegie (2012), and Whisler (2012), significant discrepancies exist among the beliefs held by hiring entities in all job markets when it came to hiring employees with online degrees. Whisler (2012) stated that the main concern and ultimate weaknesses of online degrees included lack of face-to-face interaction among students and faculty, along with increased potential for academic dishonesty.

Among employers, it is up to the gatekeeper, the individual who holds the initial resume or curriculum vitae, to review the application and make a quick decision whether someone is passed on to the next level up, and this involves the gatekeeper’s view of the validity of that institute of higher education. Some for-profit universities are recognized quickly; the applicant did his or her coursework online. Others institutions have both a traditional campus and an online program, so these are a little more difficult to distinguish. Most often, an individual will never know whether a gatekeeper has a preconceived idea about degrees or something else disqualified an applicant. These issues are human nature but research indicates that have been instances when individuals are passed over because of a bias of the gatekeeper (Guendoo, 2008).

Adams (2008) sought response from university deans and department chairs with regard to hiring faculty with online degrees. He emphasized that the focus is not on why students choose to enroll or whether the educational outcomes are comparable to those found in traditional classrooms, but rather the question of acceptability of the degree earned solely or partially online. The result of the study suggested that, in part, perception of face-to-face contact with instructors and mentoring are essential ingredients of what many consider a quality education. Overall, the department chairs and deans implied that even when online degrees are from a well-respected educational institution with excellent academic standards, key elements are missing. Allen and Seaman (2013) stated that a small group of academic leaders, 23%, believe the learning outcomes from online education are inferior to those of traditional institutions. Columaro and Monaghan (2009) indicated that employers identified the following five areas as contributing to a negative perception of online degrees: lack of rigor, lack of face-to-face interaction, increased potential for academic dishonesty, association with a diploma mill, and concerns about online student’s steadfast commitment. Adams (2008) surveyed university committee chairs and discovered three issues of concern regarding online degrees when hiring faculty: they are not comfortable with online degrees in relation to a lack of interpersonal interaction, the perception that online degrees are easier, and the lack of a quality faculty mentor.

A survey report by Lorenzo (2008), commissioned by Western Governors University, stated that most hiring entities look case-by-case at candidates who hold an online degree when considering them for employment. He further stated that the hiring entity
will not make a positive or negative decision just because of the modality of the way the education was received.

**Higher education leadership and issues faced on university and college campuses**

“The National Commission on Higher Education Attainment believes leadership from colleges and universities is essential for the U.S. to regain international preeminence in college attainment by 2020” (Rhoades, 2012).

Strategic planning has long been in place within institutes of higher education and foundational in the implementation of new ideas and concepts without destroying what already exists. It would defeat the purpose to introduce a new online program without giving thought to the traditional program already in place. Only with solid research and preparation, which includes having faculty and staff on board for the transition, is forward movement possible. Having dreams is an admirable trait, but dreams are not achieved without preparation and hard work. This being said, a team of the best administrators and faculty working together will be able to take a strategic plan and move it to fruition, with the fewest issues. That is because they have followed the five steps for strategic planning by Boettcher (2005):

1. Vision, Value, and Mission Statement
2. Needs Assessment
3. Goals and Objectives
4. Strategies
5. Policies and/or Action Plans

Using this method of strategic planning, everyone needs to realize this process will not be quick or easily put into place. Bolman and Gallos (2011) state:

Research and experience tell us that academic leaders go awry for two reasons: (1) they see a limited or inaccurate picture—they miss important cues and clues in their environment—and as a result take the wrong course; and (2) they fail to take people along with them—they move too fast, too unilaterally, or without full appreciation of the power of cultural norms and traditions to enable others to buy into their plans. (pp. 9–10)

Strategic planning with key players would have kept this from occurring. Bolman and Gallos (2011) go on to say, “The good and bad news about any organizational structure is that it keeps producing what was designed to produce, even if that is not what anyone wants” (p. 51). Great care is needed in the planning stages so the product design will be exactly what is wanted.

Online education is a hotbed of discussion on universities and college campuses by faculty and leadership alike. In the area of leadership thoughts, online education may be one of method to add stability after the financial shortfalls of years past and into the future. Shelton and Saltsman (2005) conclude, “Creating a sustainable online educational initiative requires a careful balance between educational quality and financial stability” (p. 47). The shortfalls began in 2008, as noted by the U.S. Department of Education (2011), and state shortfalls continued into 2012 at a rate of 7.6% (National Commission on Higher Education Attainment, 2013).

Allen and Seaman (2014) found that since 2002 institutional leaders consider online education to be critical to their long-term strategic planning. They also found that 90% of chief academic officers (CAO) believe that a greater part of higher education students
will be enrolled in a minimum of one online course during the next five years (Allen and Seaman, 2014). Even though enrollment is essential, the biggest payoff for the institution is maintaining the enrollment to graduation (Rhoades, 2012). Shapiro and Dunbar (2012) report that graduation rates for private or nonprofit institutions are 72% and for-profit institutions are at 61%.

College leaders must also avoid pitfalls. First, efforts to improve retention and completion must not come at the expense of access. After all, the easiest way to boost graduation rates would be to accept only those students with high academic qualifications. We cannot pursue greater student success by limiting access to higher education. Second, quality cannot be compromised. Lowering academic standards would also boost the number of graduates, but such tactics would not honor the commitment colleges and universities have to serve students and society (National Commission on Higher Education Attainment (2013).

The National Commission on Higher Education Attainment (2013) warns against making one size fits all program. Not all individuals are exactly alike; therefore, the fit of an educational program is not suitable for everyone. This commission recommends strategies to assist in this process, starting with assigning ownership, thus allowing a member of the leadership team to help with coordination and implementation of identifying roadblocks that stand in the way of students focusing on their education. The institutional leadership works with deans, department chairs, faculty, and staff to make sure students know they are supported. Institutional leadership’s main focus is to make sure that students understand that their thoughts and opinions are valuable and will not only be heard but also taken into consideration. Communication is essential to assure transparency and that transformational and authentic leadership is exhibited. The transformational leader’s main goal is to make sure everyone knows the strategic plan of the online program and that the students and their success are the main focus.

One issues facing institutional leadership is to include in their strategic planning the new demographics of the student population in online education. Rhoades (2012) indicated that college students 30 years of age comprise 25% of the total school population; thus, their largest issue is that most have family and work responsibilities. This situation causes almost half of this age group of students to attend only part-time. Tinto (2012) stresses the critical factors to achieve support for this type of student:

1. Setting clear and high expectations
2. Providing academic and social support, ideally embedded into the class
3. Having frequent and timely assessment and feedback
4. Active engagement with faculty, in relation to course concepts and interaction with other students, and the development of a learning community.

**Faculty and their part in an online program**

A study by Allen, Seaman, Lederman, and Jaschik (2012) found that more than two-thirds of the faculty believes the final results from students in an online course of instruction were inferior or somewhat inferior to traditional instruction. Around one-third of faculty respondents believe their institution is pushing online education too much, but when comparing faculty of institution leadership that number drops to 10% (Allen et al., 2012).
Young (2002) claimed that professors’ workload has been an area of concern with online degrees, indicating that many professors in universities have not been rewarded for their work in online programs and demonstrating that online education has multiple hurdles to jump, not only for students but for professors, as well. Young (2002) added that tenure committees observed professors’ work in online programs as less of a service and more of a hobby. He concluded that present information about the credibility of online degrees can be a source of distress or optimism, and that the topic has become one of considerable importance as more and more students turn to online education. Windes and Lesht (2014) indicate the reverse of the above information: “teaching online requires more preparation than does teaching face-to-face.”

Allen and Seaman (2014) found that 83% of faculty from institutions that have no online programs believe the outcomes for online students were inferior or somewhat inferior than face-to-face delivery. They identified faculty from institutions with sound online programs and found 40–50% of faculty reporting a level of concern for learning outcomes (Allen and Seaman, 2014). As we move further into the study, the question about whether online education can help students to learn as effectively as the traditional format, there was a different tone. Here, 83% agree that online education can be as effective as the traditional format.

One concern noted earlier was that faculty believed their institutions were pushing online education too much. But Allen and Seaman (2014) indicated that only 25% of faculty surveyed held that view. Of the respondents in this survey about 33% were neutral, and the remainder disagree or strongly disagree. The final component of this survey indicated that 60% of faculty would recommend online courses to students.

Allen et al. (2012) bring up a point that is of considerable importance to faculty of all institutions: does online faculty receive the same respect in tenure/promotion decisions? Since tenure is a gigantic issue for institutions of higher education, the results indicated that 50% of faculty did not believe online faculty were treated the same for tenure/promotion as traditional. Administration respondents had a slightly lower number than the faculty.

As in any career choice, individuals wish to be treated with respect. Otherwise, it may become an issue over time in the overall way in which their work is completed.

How can university leadership assist in making employers readily accept online degrees?

This question is one that I am sure has been asked by the leadership of every university that offers online degrees. First on the agenda would be to begin a marketing campaign. All facets of the university should be featured—locally, then regionally, then statewide. Later, it could be promoted in a multistate regional and perhaps nationally. Alumni can help spread the word of the programs, and they would be highlighted in the marketing campaign. Because such a marketing campaign is not inexpensive, partnerships with industry and alumni can help to move it forward.

Shelton and Saltsman (2005, p. 137) have a six-step procedure to market an online education program:

1. Conduct a situational analysis of the program (where it is now, how it got there, and where it is headed).
2. Establish marketing objectives that clearly specify the intended future direction of the program.
3. Map a marketing strategy that explains in detail how objectives will be met (what will be done, who will do it, when it will be done).

4. Analyze the target audience again (what appeals to them, what their needs are, etc.).

5. Determine the desirable market position (establish the program as a leader in business teleconferencing services; position the program as the only vendor in the online degree in a specific subject area; offer the lowest cost Web-based courses for adults within the region).

6. Determine the best media and advertising mix (use only print media throughout the year; plan a 50/50 mix of television and radio advertisements three weeks before a new term starts).

The target audience is vast; just about anyone who would be touched by this campaign would be influenced.

The university also has an excellent promotional source: current students. The programs could build in internship programs whereby students work with mentors in the area of their education. This program has twofold benefits: students gain the experience from their mentors and employers can see firsthand what the student has learned and its relevance to their business. This is a win-win marketing campaign.

The university leadership must have a firm grasp on the degrees offered in the online format and make sure the faculty and staffs are supported appropriately. They will then be the program’s greatest cheerleaders. Students are the final product, and when they complete a program that is top notch, they will then be easily marketable. Make sure that only positive press is sent out from the university about any and all programs, but especially the online degree programs. Saying positive things is infectious and soon will spread.

A university also can promote its online degree programs by making them affordable by most students. Making the package exceptionally attractive will attract larger school populations and thereby produce a larger base to spread the terrific news of the online degree programs already in place. Word of mouth is a powerful tool and extremely effective.

The university leadership holds everything together, making possibilities happen throughout the system, opening opportunities for additional programs and opening minds to new career possibilities. With university leadership in place, support from the faculty and staff, and broadened opportunities, the strategic plan can move forward boldly. The sky’s the limit if only you can dream.

References


Whisler, V. (2012). Gatekeeper perceptions of interpersonal skills learned in postsecondary online degree programs. 18th Annual Sloan Consortium International Conference on Online Learning, 74. Retrieved from http://sloanconsortium.org/conference/2012/aln/gatekeeper-perceptions-interpersonal-skills-learned-postsecondary-online-degree-.


A Pre-Service Teacher’s Experience Implementing Engineering Practices in a High School Physics Class

Comfort Ateh
Elizabeth DeGaray
Providence College
Introduction

As a new teacher, there are undoubtedly many “firsts” one will experience in the front of the classroom, several of which come about during student teaching. One of the most notable firsts is addressing the Next Generation Science Standards (NGSS) (NRC, 2013). The NGSS are a set of voluntary standards, addressing relevant science knowledge that each student should understand upon graduation of high school. Unlike previous science standards (NRC, 1996) the NGSS emphasize an integration three dimensions of learning and specifically stress the importance of engineering in learning science defined in a framework of K-12 for science education (NRC, 2012).

This study focused on one of the dimensions of the NGSS, its effectiveness and connection to teaching strategies currently implemented in classrooms. The study sought to answer the following question: To what extent does the disciplinary core idea (DCI) of the “Interdependence of Science, Engineering, and Technology” in the NGSS enhance students’ understanding of energy? It is crucial to analyze the effectiveness of any set of standards in the school classroom, to make sure they are beneficial to students’ learning. The study specially focused on a project that students in Honors Physics classes at a high school in the North East region of the USA undertook over the course of their third quarter. The students completed an “Egg Drop Project” in which the students designed a mechanism which underwent a change in energy to protect an egg from breaking as it was dropped from varying heights. The project aligns with one of the NGSS performance expectations relating to energy (HS-PS3-3) that reads as follows: Students will be able to design, build, and refine a device that works within given constraints to convert one form of energy into another form of energy (NRC, 2013). General observations were made over the course of the project, and pre and post surveys were conducted to see how the students’ understanding of energy changed, through this engineering assignment.

Participants

This study took place in two honors physics classes that the PST taught during the spring semester of 2015. The two physics classes were relatively homogenous: Students were all similar in race, socioeconomic status, and academic ability. All of the students were Caucasian from a middle class suburban town. The students shared a similar work ethic, and were overall very invested in their work. One of the classes had a population of sixteen students with five males and eleven females. The other class contained fourteen students with one male and thirteen females.

Next Generation Science Standards

The NGSS describe in detail important scientific ideas and practices that students should learn by the time they graduate high school. The innovative aspect of these standards is in their focus on the integration of three different dimensions: science and engineering practices, disciplinary core ideas, and cross cutting concepts. The first dimension, of practices describe “behaviors that scientists engage in as they investigate and build models and theories about the natural world and the key set of engineering practices that engineers use as they design and build models and systems” (NRC, 2012). This helps to engage the students in types of inquiry learning that is useful in future science endeavors, as well as developing critical thinking. The second
dimension is the cross cutting concepts. These concepts are those ideas which have applications across the domains of the sciences. These crosscutting concepts show how the different areas of science are all connected. The concepts include, “Patterns, similarity, and diversity; Cause and effect; Scale, proportion and quantity; Systems and system models; Energy and matter; Structure and function; Stability and change” (NRC, 2012). The third and final dimension consists of the DCI. These are the ideas that are important in many different science disciplines, provide information for understanding complex ideas, relate to real world scenarios, and are teachable over all grade levels from elementary school to high school. The DCIs are categorized into four different domains: the physical sciences; the life sciences; the earth and space sciences; and engineering, technology and applications of science (NRC, 2012). The intertwining of these three dimensions is how the standards plan to build an effective foundational knowledge of science concepts from the time students begin elementary school through the end of high school. The NGSS emphasize an integration of important concepts in engineering, which is crucial in physical science and specifically in physics. The importance of innovative engineering strategies is becoming increasingly important in our society, and these standards help emphasize this skill set.

Egg Drop Project

The egg drop project was conceptualized with a focus on elements of engineering practices in the NGSS. Students were challenged to design and construct a container to house an egg and prevent it from cracking as the container was dropped from different rungs of a ladder. This is heavily reliant on two of the most crucial engineering skills, design and construction, both of which are emphasized in the NGSS. For this project the students worked in their assigned lab groups.

Each group of students had one class period, of 48 minutes, a week for nine weeks to complete this project. The first week was a planning day for the students in which they could develop a preliminary design for their egg containers. The subsequent seven class periods devoted to this project were building days for the groups to construct their physical devices. The final class period was a testing day in which the egg containers were dropped from the ladder and the final project results were observed.

There were several building restrictions included within the constituents of the Egg Drop Project. For starters, there were mass and size restrictions. The main egg compartment for the device had to fit within a cube with sides of length 10 centimeters, and the full egg drop containers all had to fit within a cube with sides of length 25 centimeters. Additionally, the containers could not weigh more than 600 grams. Only certain materials (Table 1) could be used in construction of the egg drop device. Each material had a designated price, and each lab group was given an imaginary “budget” of 100 dollars to purchase these materials with. This prevented the students from using frivolous amounts of materials, and also forced the groups to think strategically about how to construct their devices.

The finished projects were graded based on a rubric consisting of categories of performance criteria, each worth 200 points. The first category focused on students' ability to follow the building requirements including the mass and size restrictions and the second focused on the success of the project based on its ability to prevent the of the egg from breaking when dropped from a certain height.
From each of the first four heights, the egg device was dropped five times. Each successful drop would give the students more points. If the egg survived all five drops, it would proceed to the next height. From each rung of the ladder, the egg drop devices were dropped from a standard point on that particular rung, as reference point to ensure that all of the students were graded at the same level of difficulty. If the egg was dropped successfully from the top of the ladder after all the preceding heights, the device would earn a perfect score of 200 points on the second part of the rubric.

This project aligns with one of the postulates from the NGSS, HS-PS3-3. This postulate reads, “Students who demonstrate an understanding can design, build, and refine a device that works within given constraints to convert one form of energy into another form” In this project, the students tried to minimize the effects of the change in energy from potential energy to kinetic energy, as well as the resulting force of impact through the creation of their egg drop devices. The results of this project, with accompanying pre and post surveys, provided qualitative data on students’ knowledge of energy changed.

Energy Concepts

There are a few fundamental terms associated with energy which were involved in this project, and thus important to understand. For instance, before the egg is dropped, it has potential energy. This can be thought of as stored energy due to any objects position. In this case, the egg has gravitational potential energy. When the egg is moving after it is dropped, it has kinetic energy. Kinetic energy is the energy of motion. When the egg is dropped, its energy changes from potential energy to kinetic energy because total energy must be conserved in a closed system; meaning a system without additional forces acting according to the law of energy conservation. Thus, when the egg is at its maximum height it has only potential energy. Just before the egg hits the ground, it has its maximum kinetic energy and also its maximum speed contributing to the force of impact on the egg when it hits the ground. The students were thus challenged to design their projects to reduce this force of impact. Their ideas on reducing the impact of the force included reducing the speed of fall of the egg and creating a cushion around the egg to reduce the impact of the force.

Pre-Project Assessment

For the pre-project assessment, the students were asked two questions: (1) how does this project relate to energy as we have studied in physics and (2) how does this project relate to real world situations? To answer the first question most students were able to identify that the project dealt with the change in energy from potential energy to kinetic energy. However, the students did not focus on the impact of the change in energy. To answer the second question, many students mentioned real world situations which dealt with the action of dropping. Some of these answers included dropping other objects and freefall, which is the motion an object experiences due to the force of gravity. A few students did mention the impact of the egg dropping in this part of the survey. Some students mentioned the effects of crashes; a few students specified car crashes as an example.

Student Progress
As the students proceeded on in the project, it became clear that the implementation of this engineering based-project was certainly impacting their mindsets. Many groups of students began to make changes to the projects which they had initially planned to construct. Students realized they needed to focus heavily on how to reduce the impact of change in energy. Some groups began to add parachutes (Figure 1) to their devices as a means of slowing the speed of the descent of the egg. Other students began to change the materials that they were working with. For instance, many groups began to incorporate pipe cleaners (figure 2), straws (figure 3), and cotton balls (figure 4) into their designs to create a bouncing effect which decreased the final force of impact on the egg as it bounced to a slow halt.

Post-Project Assessment

The students’ enhanced understanding of energy became even more prevalent through the administration of a post-project survey that included three questions. The first and second questions were in the pre-project survey.

Question 1:

How does this project relate to energy as we have studied in physics? To this, many students articulated the present change in energy from potential to kinetic energy. They also noted the essence of energy and impulse in reducing the speed of descent of the egg and the distribution of the impact force the energy causes.

Question 2:

How does this project relate to real world situations? Students’ responses focused on the action of dropping the egg and on how their specific project designs related to the real world. For instance, many students recognized the use of parachutes in real life as in skydiving, paratroopers leaving a plane, and also sending emergency materials to people in need. The students also noted how this project relates to air resistance referring to the impact of crashes. Some students were more specific in their responses as in relating their attempt to protecting their egg with a cushion to the design of car airbags intended to cushion humans against the force of an impact resulting from a car accident.

Question 3 was not part of the previous survey and asked students to explain the impact of the project in their learning about and understanding energy. Most of the responses to this question referred to two specific themes: (1) knowledge on energy: students recognition of the impact of the change in energy from potential to kinetic, and not simply the fact that there is a change in energy, and (2) relating science to real world experience: students noted the connection between science learned in class and what is occurring in the real world. Designing and constructing a project based on science knowledge enabled the students to make these sophisticated remarks about the impact of the project in learning and understanding science, and specifically energy.

Conclusion

The findings from this study attests to the effective workings of the NGSS, and how it can help to foster, rather than stifle, academic growth among students. The study shows how the DCI of the “Interdependence of Science, Engineering, and Technology” in the NGSS contributes to students learning of science. Projects like the Egg Drop that embed this DCI will motivate and engage students in learning science. The project
enabled students to make connections between the principles of energy learned in class, the design and construction aspects of engineering, and real world examples of technology, such as parachutes. It was clear, through the rubric evaluations of the devices that the students are successful in learning science by employed the interdependence of these three categories in designing and constructing their projects.

Limitations
The study was restricted to two honors physics classes that the PST taught in the semester prior to student teaching; one class had only fourteen students, and the other class had sixteen students. Additionally, the population was fairly homogeneous in terms of race and also in academic ability. The study was also based mostly on personal observations and interactions with the students. Although pre and post surveys were administered to the students, the results were substantiated mostly by personal observations based on consistent formative assessment through questioning and observations over the course of the project. Thus, a majority of the information was based on personal perspectives. Finally, during the time of the study, the primary researcher was a student teacher still in a learning experience phase with minimal experience in teaching to be able to guide students through effective scaffolding strategies.

Implications
The findings from this study contribute to knowledge on the DCI of the “Interdependence of Science, Engineering, and Technology” that has not been greatly explored.

Teachers and curriculum developers can use this study as a model of how to align projects, assessments, activities, and lessons to the NGSS standards. The study and its findings can serve as resource material in creating curriculum on the DCI of the 'Interdependence of Science, Engineering, and Technology to enhance students learning. The study can also be used in professional development programs that focus on enhancing teachers’ knowledge and implementation of the NGSS.

References
### Table 1: List of Materials for Egg Drop Project

<table>
<thead>
<tr>
<th>Materials</th>
<th>Quantity</th>
<th>Cost ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toothpick</td>
<td>10</td>
<td>2</td>
</tr>
<tr>
<td>String</td>
<td>0.25 m</td>
<td>2</td>
</tr>
<tr>
<td>Paperclip</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>Straw</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Glue Gun (w/glue)</td>
<td>1 period</td>
<td>4</td>
</tr>
<tr>
<td>Cotton Ball</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Tape</td>
<td>0.1 m</td>
<td>2</td>
</tr>
<tr>
<td>Pipe Cleaner</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Rubber Band</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Paper</td>
<td>1 Sheet</td>
<td>10</td>
</tr>
<tr>
<td>Real Test Egg</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>Plastic Egg</td>
<td>1</td>
<td>20</td>
</tr>
<tr>
<td>Newspaper</td>
<td>1 Sheet</td>
<td>20</td>
</tr>
</tbody>
</table>

### Table 2: Scoring Guide for Egg Drop Project

<table>
<thead>
<tr>
<th>Height at which egg is dropped</th>
<th>Trial 1</th>
<th>Trial 2</th>
<th>Trial 3</th>
<th>Trial 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Height 1: 1 m</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Height 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Height 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Height 4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Height 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Figure 1: Students used parachutes to slow the egg descent.

Figure 2: Pipe cleaners

Figure 3: Straws

Figure 4: Cotton balls
STEM in the Park:
A Model Program that Provides Roots for STEM Learning

Emilio Duran
Lena Ballone Duran
Bowling Green State University
Abstract

A rapidly growing population and ever more complex systems of human interaction demands creativity and innovation to solve the important social, economic, health, and environmental problems we face everyday. Naturally, STEM (Science, Technology, Engineering and Mathematics) is an essential part of that problem-solving process. STEM in the Park seeks to increase awareness, interest, and knowledge in STEM and STEM careers by providing engaging and meaningful opportunities for people of all ages, especially children and underrepresented groups, to explore the many aspects and applications of STEM in their lives. In 2014, more than 3,500 people attended this free community event that featured more than 100 interactive STEM activities facilitated by higher education institutions, pre K-12 educational agencies, community non-profit organizations, and local businesses. In addition, attendees received free STEM experiments to take home and a free lunch. STEM in the Park is made possible by the generosity and talent of STEM professionals, businesses, and organizations in northwest Ohio. The findings from the evaluation report were extremely positive and demonstrated that STEM in the Park successfully reached its goals of increasing knowledge and interest in STEM and STEM careers.

STEM is an acronym for Science, Technology, Engineering, and Mathematics, disciplines that play a pivotal role in our knowledge-based global society. STEM is not a collection of numbers and facts; it represents a way of thinking about the natural and manufactured processes we experience everyday. The significance of STEM in our lives is easy to see: a rapidly growing population and ever more complex systems of human interaction demands creativity and innovation to solve the important social, economic, health, and environmental problems we face everyday. STEM is an essential part of that problem-solving process, and is therefore more important than ever as we continue to face greater and more complex problems. As competition in the global marketplace grows for a highly skilled, highly educated workforce that has the ability to work independently and creatively, the STEM approach seeks to meet the challenge (Brown and Martinez, 2012). It has been estimated that by 2018, eight million jobs in the STEM fields will be available in the U.S. Unfortunately, it has been reported that the vast majority of U.S. students will be unprepared to fill them (Carnevale et al., 2011). This situation is partly due to a disparity of access to excellent STEM education programs, which disproportionately affects children of color and those from low-income communities. For example, only 15% of low-income 4th graders are proficient in science (Nation’s Report Card, 2011). These students, in particular, need to be provided with exposure to high-quality STEM education that may open doors to success as technological innovators and engineers. By the time some graduate high school, many are not prepared to major in STEM fields in college, and nearly 80% of future careers will require some STEM educational background. Therefore, a stimulating STEM education is essential for developing the basic analytical, problem solving and critical thinking skills central to academic achievement and workforce readiness in the 21st century (Afterschool Alliance, 2013). Furthermore, it has been documented that early exposure to STEM supports children’s overall academic growth, develops early critical thinking and reasoning skills, and enhances later interest in STEM study and careers (National Research Council, 2011). It is clear that if students are given opportunities to participate in engaging real-world STEM activities, they will learn the STEM concepts and thinking
skills necessary to solve the complex problems of our world. Not surprisingly, investing in STEM education is a critical part of the Obama Administration’s mission to keep America competitive in STEM through supporting high-quality education and workforce development (The White House, 2012). In addition, there is mounting and prolific evidence that structured non-school science programs may feed or stimulate the science-specific interests of adults and children, may positively influence academic achievement for students, and may expand participants’ sense of future science career options (Bell et al., 2009). Therefore, learning about STEM is not only beneficial for those who will eventually pursue a career in STEM, but for all of us, in order to make the best decisions for ourselves and our families, and to be responsible citizens of our country and the world.

Cognizant of these factors, STEM in the Park was created as a free community event designed to stimulate and engage children in STEM fields. Moreover, STEM in the Park seeks to contribute to STEM education by providing opportunities for adults and children to explore the many aspects and applications of STEM in their lives. STEM in the Park unites area families, teachers, university faculty, and community resource providers to engage in a free program of inquiry-based STEM activities, explore STEM careers, and experience a local university, in hopes of inspiring a new generation to increase education in the sciences. Through this event we strive to engage children and their families in their own success, leading to improved student learning and interest in STEM related fields. The specific goals of STEM in the Park are: (1) To actively engage children and adults in hands-on, interactive STEM activities; (2) To increase preK-16 student interest in STEM activities and STEM-related careers; and (3) To increase public knowledge of STEM businesses and educational opportunities in the area. STEM in the Park features dozens of interactive STEM activities facilitated by higher education institutions, pre-K-12 educational agencies, community non-profit organizations, and local businesses. People attending the event enjoy free food and can visit as many STEM activity stations as they desire. Through this event we strive to engage children and their families in their own success, leading to improved student learning and interest in STEM related fields. The specific goals of STEM in the Park are: (1) To actively engage children and adults in hands-on, interactive STEM activities; (2) To increase preK-16 student interest in STEM activities and STEM-related careers; and (3) To increase public knowledge of STEM businesses and educational opportunities in the area. STEM in the Park features dozens of interactive STEM activities facilitated by higher education institutions, pre-K-12 educational agencies, community non-profit organizations, and local businesses. People attending the event enjoy free food and can visit as many STEM activity stations as they desire. The event operates based on the generosity and talent of STEM professionals, businesses, and organizations in northwest Ohio, many of whom donate their time in the name of STEM education.

In 2014, more than 3,500 people (including volunteers and exhibitors) attended STEM in the Park. The growth in attendance at STEM in the Park has been staggering since its inception in 2010. Attendance has increased by an average of 23% each year, and attendance in 2014 was more than double the attendance at the first event. Figure 1 displays the attendance information for all events held thus far.

In 2014, STEM in the Park featured more than 100 STEM activity stations that were facilitated by local exhibitors from private businesses, non-profit organizations, pre-K-12 institutions, and institutions of higher education. Most activity stations included hands-on activities and games, and provided attendees with opportunities to observe and interact with several kinds of artifacts, animals, animal coverings, earth materials, and technology. Many of the activity stations included “make-and-take” activities that resulted in products attendees could take with them. Some of the make-and-take products included silly putty, “element” bracelets, “flubber”, ice cream, butterfly larvae necklaces, and solar ovens made from pizza boxes. In addition, many of the activity stations provided attendees with take home activity cards. The cards included directions and an explanation for an activity that would allow the attendees to extend their STEM discovery
at home after the event. The favorite activities mentioned by the attendees on the evaluation survey were tallied, and the most commonly listed activity stations (those given by at least 10% of respondents) are displayed in Table 1.

Attendees’ survey responses indicate the activity stations appealed to the preferences of many different people. Almost all of the activity stations were mentioned as a favorite by at least one person. In addition, many attendees specifically mentioned being impressed with the variety of activities at STEM in the Park. Three attendees wrote:

“I was impressed with the variety of activities and the ability for my 3 year old to be able to find activities that he could understand and enjoy.”

“This was our first year ever attending and we were blown away with the amount of science activities. You touched on every age from preschool (even earlier) to my age.”

“It had activities for a wide variety ages and scientific disciplines.”

Most participants believed the STEM in the Park activities were highly engaging and positively impactful on children’s interest in STEM. In fact, when participants were asked to rate the impact of the event on their children, most respondents answered that STEM in the Park increased their interest in STEM in general (86%) and in STEM careers (66%). Notably, 55% of the respondents affirmed that STEM in the Park greatly increased children’s interest in STEM. (See Figure 2)

In addition, qualitative data collected from the surveys support the numerical responses. For example, attendees wrote:

“My children LOVED this event! They are still talking about the day and the activities that they did. Before we even reached the parking lot, they were asking to come back next year.”

“I was really made aware at this event how interested one particular child of mine is in a certain area of science. It was so fun to watch each child gravitate to their certain interests.”

“Both of my daughters (ages 6 and 5) loved STEM. They didn’t want to leave and were upset because we weren’t able to visit every station. They were very engaged the whole time!”

Exhibitors were also another group that participated in STEM in the Park. The exhibitors saw first-hand how engaged and interested attendees were in STEM in the Park activities. Interestingly, as seen on the graph below, the exhibitors who facilitated the hands-on activities also described STEM in the Park as a worthwhile experience (100%) that benefited their organization (95%). (See Figure 3)

Moreover, some exhibitors wrote:

“[The children] were excited, trying to "beat" the other children building parachutes at the same time—this challenge activity was fun for children AND adults! Parents could be heard relating the
activity to real life experiences they may have had before."
“The adults were participating heavily in the activities as well. What was really cool was seeing the adults interact with other like-minded adults and starting connections between resources that they use.”
“The children were enthusiastic, energetic, asked questions, and even more or less patiently waited in line to make a "really big bubble".”

Likewise, most attendees said it is very likely that their family will attend STEM in the Park next year. Many attendees also commented about their attendance in the future. Some attendees wrote:

“Had an amazing time and can’t wait to come back next year and try more of the activities.”
“The event was great and we will definitely be attending next year.”
“We thought it was an awesome event. We can’t wait until next year!”
“Great job everyone! I have told many people about it and told them, they need to go next year!”

Overall, the attendees' comments were very positive. Many attendees wrote how impressive the event was, and expressed their gratitude for being able to attend a free community event with a free lunch. Attendees also mentioned how helpful and friendly the exhibitors and volunteers were. Some of the attendees wrote:

“I was very impressed with the variety and quality of the experience while being a completely free experience!! Very nice!!”
“Free lunch, great exhibits, friendly volunteers, and it is all FREE!”
“Everyone was very friendly and helpful. We are looking forward to attending next year.”

The findings from the 2014 STEM in the Park evaluation demonstrate that STEM in the Park successfully reached its goals of increasing attendees' awareness of STEM-related organizations and events in their community, and improving attendees' knowledge about and interest in STEM and STEM careers. Most attendees believed that STEM in the Park substantially increased their children's knowledge about STEM and that their children were much more interested in STEM after attending STEM in the Park. A summary of these findings is depicted graphically below. (See Figure 4)

In sum, the global marketplace necessitates a skilled, educated workforce that has the ability to work independently and creatively. STEM and STEM education are essential for developing the basic analytical, problem solving and critical thinking skills central to academic achievement and workforce readiness in the 21st century. Therefore, young people require opportunities to participate in engaging real-world STEM activities to show the significance of STEM in their daily lives. Events like STEM in the Park provide opportunities to increase awareness, interest, and knowledge in STEM
and STEM careers by providing engaging and meaningful opportunities for people of all ages, especially children and underrepresented groups, to explore the many aspects and applications of STEM in their lives. The findings from the evaluation report were extremely positive and demonstrated that STEM in the Park successfully reached its goals of increasing knowledge and interest in STEM and STEM careers.

References

Table 1:

<table>
<thead>
<tr>
<th>Activity Station</th>
<th># of Time Mentioned</th>
<th>% of Survey Respondents who Mentioned the Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Create A Butterfly Larva Necklace</td>
<td>83</td>
<td>28.6</td>
</tr>
<tr>
<td>Reptiles are “Cool”</td>
<td>65</td>
<td>22.4</td>
</tr>
<tr>
<td>The Science of Sports Zone</td>
<td>45</td>
<td>15.5</td>
</tr>
<tr>
<td>Bubbles: Phun with Physics</td>
<td>40</td>
<td>13.8</td>
</tr>
<tr>
<td>Ice Cream in a Bag</td>
<td>38</td>
<td>13.1</td>
</tr>
</tbody>
</table>
What's a Polymer? Flubber! 35 12.1
Marine Touch Tanks 30 10.3

Figure 1:

Figure 2:

STEM in the Park Impact on Children's Interest in STEM and STEM Careers

<table>
<thead>
<tr>
<th>Percentage of Attendee Responses</th>
<th>Interest in STEM (n = 280)</th>
<th>Interest in STEM Careers (n = 264)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Much less</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>A little less</td>
<td>14%</td>
<td>0%</td>
</tr>
<tr>
<td>About the same</td>
<td>31%</td>
<td>34%</td>
</tr>
<tr>
<td>A little more</td>
<td>0%</td>
<td>38%</td>
</tr>
<tr>
<td>Much more</td>
<td>55%</td>
<td>28%</td>
</tr>
</tbody>
</table>
Figure 3:

Percentage of Exhibitor Responses

- **A Worthwhile Experience**
  - Disagree: 0%
  - Somewhat Disagree: 5%
  - Somewhat Agree: 95%
  - Agree: 0%

- **Beneficial for My Organization**
  - Disagree: 0%
  - Somewhat Disagree: 4%
  - Somewhat Agree: 23%
  - Agree: 72%

Legend:
- Disagree
- Somewhat Disagree
- Somewhat Agree
- Agree

Figure 4:

**STEM in the Park Impact on Attendees STEM Knowledge and Awareness**

Percentage of Attendee Responses

- **Adult STEM Knowledge** (n = 292)
  - Not at all: 2%
  - Very slightly: 16%
  - Moderately: 21%

- **Children's STEM Knowledge** (n = 282)
  - Not at all: 1%
  - Very slightly: 7%
  - Moderately: 44%

- **Awareness of STEM Organizations and Resources** (n = 291)
  - Not at all: 2%
  - Very slightly: 7%
  - Moderately: 52%

Legend:
- Not at all
- Very slightly
- Moderately
- Substantially
Patenting Life: GMOs

Kelsey Gibbs
Central Washington University
My freshman year in high school, I put on my blue and gold corduroy FFA jacket for the first time. I was ecstatic to stand in front of audiences to speak the words of the FFA Creed. I would proudly stand up to say the words, "I believe in the future in agriculture..." I completely believe those words, but it is amazing to see that from my freshman year in high school to my senior year in college, the face of agriculture has changed. Fruit trees are smaller and producing more fruit than ever and genetic modification is no longer science fiction. The widespread use of genetically modified crops and organisms fueled the "Green Revolution," which promised varieties of crops that are resistant to drought, freezing, and certain chemicals. Despite all of the promised benefits, genetically modified organisms are proving to have high costs for farmers, consumers, and the environment. Crops and animals are to most people considered a product of nature; however, recent developments in history classify any organism that has been genetically modified as a commodity instead of a product of nature. This transition a pathway to the patenting of genetically modified organisms. The practice of allowing genes and organisms to be patented is causing a large number of farmers to be charged with patent infringement, although the infringement is unintentional.

Policies allowing GM crops to be patented are dangerous to the environment, farmers, and the food supply of the world. By definition, a patent allows the holder a limited monopoly to their product. In exchange for full public disclosure regarding a product, a patent holder is granted the rights to the buying, selling, and development of that specific product (Patent). Allowing crop seed manufacturers patent rights to seed has potential to be incredibly risky. Farmers that have bought into the GM scheme starting in 1995 have experienced an increase in costs for planting and care of up to 325 percent. This massive increase does not include the drastic 23.5 million dollars that the seed giant Monsanto has received in patent infringement cases. For farmers, the costs of GM crops do nothing but rise. Patents on these organisms allows companies like Monsanto to continue to gain profits and hold the safety of biodiversity in jeopardy. Crops that have been genetically modified promise incredible results; however, in many cases these crops encourage the growth of "Super-Weeds" that develop a resistance to many of the herbicides that other GM crops are resistant to. Due the development of the "Super-Weeds" cause an excessive use of chemicals to be applied repeatedly in order to ensure that the weeds are killed. These super weeds are incredibly aggressive and require the use of very toxic chemicals that end up in neighboring waterways. If patent laws remain untouched, biodiversity may also be in danger. Farming has evolved dramatically in the last century. Small family farms growing a variety of crops have become commercial mono-crop operations. Including GM crops into the mix of commercial agriculture could be incredibly risky, due to potential for crop failure. According the Food and Agriculture Organization of the United Nations in 2010, the myth that genetic modification is required to feed an ever-growing population is false. The organization warns that the loss in biodiversity that is being encouraged by the use of GM crops and large mono-crop organizations is detrimental to the ability of future generations to be able to farm sustainably (Paul, 2013). Patent laws on genetically modified organisms have extreme potential to be dangerous to future generations is patent laws are not reevaluated. Genetically modified crops are also dangerous due to the risk of a suicide gene. The suicide gene has been developed by genetic modification scientists to cause seeds to cease reproduction once the seed has produced the crop.
The suicide gene is developed to ensure that farmers are required to purchase their seeds each year. This gene creates not only a financial burden for farmers but a serious risk to biodiversity.

Farmers sued for unintentional patent infringement are often sued because seeds were accidentally pollinated with non-GMO seeds. The ability to patent GMOs and their proliferation in the market is a risk of the security of the food supply. Should suicide genes become a normal practice within the agricultural field and cross-breed with non-GMO seeds, there is potential for a crash in the food supply. Seeds that are non-GMO should be free of the risk being bred with GMOs by natural processes. Suicide genes in seeds are a frightening reality, because potential cross-breeding could cause a wide variety of plants and crops to cease reproducing year after year.

The ethical debate surrounding genetically modifying any type of organism is nearly never-ending. Both advocates and opponents provide valid arguments for their case; however, the ethical debate is an entirely different argument than the issue of patents for these organisms. The science behind developing these organisms is impressive and impressive to say the least but issuing patents on these organisms should be evaluated more carefully. The intellectual property of these companies has the right to be protected, but it should not come at the cost of the livelihoods of farmers and the security of global biodiversity. The scientific advances have the right to be protected but there should also be protection for farmers, biodiversity, and consumers.

Patent laws have evolved since their inception. The first patent act in the U.S was passed in 1790. The law was designed to resemble the English Statute of Monopolies Act. Patent Laws were designed to protect the intellectual property of inventions, ideas, and innovations. The U.S Patent and Trademark office works with inventors in a mutually beneficial relationship. In a trade for full public disclosure, inventors are granted certain rights for a given length of time. A patent is a form of a limited monopoly. Once a patent is granted, the holder is granted exclusive rights to the product or idea. These rights include the ability to make, use, and sell the innovation for a given length of time. To be eligible for a patent, an invention must fit five very specific characteristics. The first of the five characteristics being patentable subject matter. The definition of patentable subject matter has been debated over the years and been to court on numerous occasions. In a 1980 case, the Supreme Court and Congress defined patentable subject matter as "anything under the sun that is made by man" (Patent). Utility is the next characteristic that must be met. Any invention to be considered for a patent must be useful. A patentable item must also be considered a novelty. Novelty is defined as not being known of or used by others in the country. The fourth of the required characteristics is nonobviousness. This characteristic was added with the Patent Act of 1952. The nonobviousness element of a patent proposal requires that the art or subject matter to be patented is not obvious to a person having ordinary skill at the time of the proposal. The final characteristic that must be met for a patent is enablement. This element is directly related to the full disclosure portion of the patent agreement between the inventor and society. Enablement is the full written description of the invention and the manner and process or making or using the invention.

Patent laws have existed for hundreds of years. The criteria surrounding patent laws is broad and open for interpretation in many cases. According to 35 U.S. Code § 10, categories eligible for patent include any process, machine, manufacture, or
composition of matter or improvement thereof (Patent). For several hundred years, biological discoveries have not been included under patent laws because they were considered to be made by nature, not man. It was not until the Supreme Court Case of 1980 Diamond v. Chakrabarty that the supreme court narrowly decided that a strain of bacteria had been modified by the insertion of genes. This insertion classified that bacteria as man-made because the genes do not occur naturally. This landmark case opened a flood-gate of potential for biologically engineered organisms. The 1980 Supreme Court case defined the bacteria as commodity, not a living organism. Never before in history has society authorized the ownership of an entire species. Ownership of an individual animal is a societal norm; however, it is unprecedented for an individual or corporation to own the rights to species or have the ability to patent a gene or protein. The Diamond v. Chakrabarty demonstrated potential for genetically modified organisms to be commercially useful. Redefining living organisms as commodities instead of natural products a doorway was opened to the patenting of more complex organisms.

Since 1980 court case, an influx of modified organisms have entered farm lands. Corn, soybeans, tomatoes, tobacco, and many other organisms have become subject to the science of genetic modification. In the process of farming, the modified seeds have amplified costs dramatically. Since the beginning of the modified seeds entering the market, farming costs have increased up to 325 percent because of rising seed costs (Paul, 2013). These rising seed costs have far reaching implications in the food supply. Increasing costs for farmers means that consumers will experience the increasing costs in the supermarket. The costs of the seeds are not only critical in the sense that the farmer experiences rising costs, but the lawsuit costs for unintentional patent infringement. Corporate giants like Monsanto have been awarded well over 20 million dollars due to patent infringement. This becomes a problem because the traditional methods of farming and the small family farms that have fed the world for centuries are being taken over by corporations.

Without a critical evaluation of patent laws, ethics and science become a very gray area. All inventors should be granted the rights of security for their intellectual capital; however, where is the line drawn? Patenting of genes and species in plants could be nothing more than a gateway to patenting more complex life forms. Research in the field of genetics and biological sciences is moving rapidly. Scientists have already cloned more complex organisms and genetic research is beginning to flourish. It is becoming very common for researchers to study human genes for disease research. Although these items have been altered by human invention, they are still living organisms. Looking ahead, consumers should worry about not only the limits on patenting life but also whether or not they are content with nearly the entire food supply being controlled by one company. In the event of a complete monopoly over the food supply, consumers would experience massive price increases as well as a loss of choices in their food supply.

Legally, the patenting of genes for living organisms is a very new practice, unprecedented actually. The patent process is incredibly extensive, and being awarded a patent can take years. For a limited amount of time a patent holder is granted those few and very specific rights to their product, including the rights to sell, develop, and alter their product. In exchange for this, the public is granted full disclosure regarding
what exactly the product is and how it works. This process was developed by Congress. Throughout the lifetime of the American Patent Law, the responsibility of upholding this law has fallen to the U.S Patent and Trademark Office as well as the Supreme Court.

Throughout history, genes and biological developments have not been eligible for patent because they were not considered man-made. It was not until 1980 that this changed dramatically. The 1980 Supreme Court case marked the unprecedented time when a company owned the rights to an entire strain of bacteria. Allowing protection to the intellectual property and development achieved by an inventor is an ancient practice, but it was not until that case that an individual had the potential to own the rights to a species. The development of patent laws occurred during a time of enlightenment and invention. Inventors wanted to protect their intellectual investment as ideas were flourishing. Over time, patent laws gained importance as inventions became more crucial to industrialization and development. The 1980 allowance of GM bacteria marked a movement of products of nature being seen as a commodity. These commodities promised a revolution. Bacteria would be able to digest oil, crops would grow better, stronger, and taller and the genetic revolution urged forward.

The new policies regarding GMOs has a variety of stakeholders. Direct involvement with the policies is seen by the scientists that invent the genetic alterations, the corporations that patent the seeds, and the farmers that purchase the seeds. Far reaching consequences of the patents extend to more stakeholders including consumers and future generations that will deal with the effects of the use of GM crops. Scientists are a stakeholder in the issue because it is their discoveries being protected by patent. The scientists responsible for developing the GM seeds, deserve to have their work protected to ensure that they are given the credit for their creations. The seed corporations provide another valuable stake. The companies selling the seeds have probably the largest stake in ensuring that GM seeds are patented. By patenting seeds, the corporation will be able to raise profits by continuous seed sales. These companies often sell other products that can be coupled with their seeds, The combination of seeds and chemical products is another method of raising revenue. Another major stakeholder in the issue of genetic modification is the consumer. Consumers are raising genetic modification to high priority. The issue is rising due to the consumer belief in a "right to know." This right to know is based on the idea the consumers have the right to know whether or not their purchases contain genetically modified products. Many states are attempting to pass legislation to require labeling. Washington, Oregon, California, and, Hawaii, are among some of the most well known states that have tried to pass such an initiative. These initiatives are met with great resistance from seed companies, ensuring that labeling will relay costs to the consumer. Despite resistance from corporations, citizens are uniting to ensure that foods are labeled. Farmers are another major stakeholder in the issue of genetically modified seeds. Farmers receive the highest cost of the genetically modified seeds. Farmers receive the impact of higher costs of production, seeds, and the legal fees needed for lawsuits against corporate giants. Farmers are a vital part of society, with their livelihoods being threatened by the proliferation of genetically modified seeds.

For large corporations, the 1980 shift in the U.S Patent law has been incredibly beneficial. Corporations like Monsanto have patented the "Round-Up Ready" varieties of several crops. This variety allows farmers to spray the herbicide RoundUp on their
crops, and the crop itself will survive. This modification is popular in soybeans, corn, and other legumes. Allowing the patent on GM crops is furthering the stronghold that the seed giants have on the food supply. Science and historic experience have proved that biodiversity is essential in the survival of crops and food production. Patented crops are beneficial to the large corporations because they further seed sales and keep small farmers returning for seeds year after year. Patenting genes means that society is forfeiting food production and the security of the future food supply to corporate giants with profit as their major concern. Patent potential granted to "everything under the sun" as long as it meets the eligibility characteristics is beneficial to the large corporations seeking patent protection, but potentially detrimental to society and traditional farming practices.

Regardless of the genetic composition of an organism, it is still classified as a living being. Allowing patents on living organisms is unprecedented and dangerous. Through cross-breeding nearly every organism is "genetically engineered" to create a desired product. Organisms engineered through this process are not eligible for patent. Returning patent laws to their original stance on living organisms would be beneficial to society and farms. Society would be returned to a food supply with no monopoly over seed distribution. Society would be able to enjoy foods produced by seeds that were bought, sold, and developed fairly. Removing the ability to patent life would reassure consumers that food has not become a science project controlled by corporate giants seeking profit. While genetic modification can be highly beneficial, it can be incredibly dangerous when it begins to creep into more complex life forms. Farmers would regain security in their ability to plant seeds and reuse seeds for the next year. Traditional farming practices would be resumed because not every seed would be "owned" by a corporation chasing infringement claims. Returning to original patent policy, which does not include living organisms, would not be beneficial to the corporations developing the genes to be modified. They would not be granted the protection on their innovation and the rights to the seeds.

Another possible alternative to patent policy reform includes removing the ability of large corporations to enter farms and test crops for patent infringement. Genetically modified crops traditionally promise major growing improvements, including drought and disease resistance, however; in many cases, farmers unknowingly obtain these seeds through unidentified circumstances that occur in farming. Patenting genes could be acceptable, if patent infringement is not used as a weapon. In 2013, the U.S Organic Farmers sued the Monsanto Corporation to remove the ability for the corporation to sue for accidental seed contamination. The organic farmers and many other farmers have spent many years concerned about unintentional patent infringement. From 1997 to 2010, Monsanto filed over 100 patent infringement suits against farmers whom accidentally made use of GM seeds without paying the Monsanto price. In the case against the U.S Organic Farmers and Monsanto, the court ruled that farmers would have to accept Monsanto's assurances stated on their website that there would be no lawsuit for less than one percent of biotech seeds on a farm. The court ruled that the website assurance is adequate and that there would be no legal assurance (Leader). Altering the patent law with regards genetic modification could be mutually beneficial for farmers and corporations. Patent protection secures the intellectual capital that is involved with the development of any sort of innovation. Patents could still be allowed on crops if a
very strict record of is kept of farmers that buy genetically modified seeds. These farmers will be required to uphold the patent laws, while farmers maintaining the use of traditional seeds will be allowed the security of not being attacked by the corporate giants. Fairness would dictate that developers of the revolutionary genes would be allowed credit for their invention, however; corporations should not be able to freely test any field to look for infringement. A new system of monitoring the sales and growth of genetically modified crops would benefit corporations, farmers, and society. Corporations would be allowed security in their inventions and intellectual development. Tracking and recording sales would allow farmers to chose genetically modified or not. If a farmer decides against genetically altered seeds, they should be guaranteed security from unintentional patent infringement suits. Society would also benefit because the stronghold of the corporations in the food supply would be lessened.

As I evaluate the changes in agriculture, I can proudly say the words "I believe in the future of agriculture..." I believe in the ability of the American farmer, and farmers around the world to continue to put food on our plates and furnish our lives with the materials needed for survival. I believe that with thorough evaluation it will be clear to law makers that the ability to patent living organisms is dangerous. In world with a growing population, it is critical that farming practices remain sustainable. If the current trends persist, our food supply could be in jeopardy. In order to ensure that future generations have a stable food supply, law makers need to protect the intellectual capital of the scientists that develop the organisms, but with caution. The ability of corporate giants to test crops needs to be removed. Conventional farmers need to be secure in their ability to grow crops without fear of patent infringement. As the line between science and reality is blurred, the ethics and debate surrounding genetic modification needs careful evaluation to be safe for future generations.

References:
Environmental Protection:
Recovery and Development in Liuzhou City

Hong He
Professor: Dr. Rex Wirth

Contents

1 Introduction
2 Liuzhou Environmental Situation and the Main Causes of Pollution in the 80s and 90s
3 Environmental Control Measures and the Effects of Liuzhou
4 Effects of Liuzhou Environment Management
5 Development
6 Conclusion
1. Introduction

Liuzhou used to be the “in the ten times raining, nine times were acid rain” industrial city. After a series governmental policies designed to transform economic development and construction practices to meet ecological goals. Liuzhou is now one of “the most beautiful industrial cities, it has a stronger industrial base than any other city with a beautiful landscape” in China. Liuzhou perfectly achieved the strategic transition from polluted industrial city to the new ecological livable industrial city.

2. Liuzhou Environmental Situation and the Main Causes of Pollution in the 80s and 90s

Liuzhou is an industrial city. In the 80s and 90s, with extensive economic development of heavy industry, it brought to Liuzhou considerable economic benefits, however the damage to the environment was beyond imagination. The most directly consequence was that Liuzhou was listed as one of the four big acid rain areas, and became "acid rain city." From 1985 to 1995, Liuzhou was a typical “acid city”, the highest acidity pH of rain below 4, acid rain rate up to 98.5%.
2.1 The environmental quality in 80s and 90s

- China’s current environmental quality standard is that the content of sulfur dioxide in air is 0.060 milligram per cubic meter. That is to say before 1999 the sulfur dioxide in the air exceeded 2-3 times; the rate of acid rain in 1992 was 98.4%. It means that in every ten rains, nine was acid rain. The pH value in the rain reached 4.2, which was very strong acidity.

<table>
<thead>
<tr>
<th>Year</th>
<th>Sulfur Dioxide (mg/m³)</th>
<th>NO₂ (mg/m³)</th>
<th>Acid Rain</th>
<th>PH Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1992</td>
<td>0.217</td>
<td>0.049</td>
<td>98.40%</td>
<td>4.29</td>
</tr>
<tr>
<td>1993</td>
<td>0.218</td>
<td>0.044</td>
<td>92.10%</td>
<td>4.41</td>
</tr>
<tr>
<td>1994</td>
<td>0.251</td>
<td>0.038</td>
<td>95.00%</td>
<td>4.37</td>
</tr>
<tr>
<td>1995</td>
<td>0.229</td>
<td>0.033</td>
<td>85.10%</td>
<td>4.26</td>
</tr>
<tr>
<td>1996</td>
<td>0.194</td>
<td>0.031</td>
<td>54.60%</td>
<td>4.61</td>
</tr>
<tr>
<td>1997</td>
<td>0.124</td>
<td>0.044</td>
<td>63.70%</td>
<td>4.94</td>
</tr>
<tr>
<td>1998</td>
<td>0.136</td>
<td>0.043</td>
<td>57.18%</td>
<td>4.98</td>
</tr>
<tr>
<td>1999</td>
<td>0.129</td>
<td>0.036</td>
<td>31.00%</td>
<td>5.17</td>
</tr>
<tr>
<td>2000</td>
<td>0.092</td>
<td>0.038</td>
<td>36.00%</td>
<td>5.21</td>
</tr>
<tr>
<td>2001</td>
<td>0.071</td>
<td>0.030</td>
<td>27.30%</td>
<td>5.17</td>
</tr>
<tr>
<td>2002</td>
<td>0.070</td>
<td>0.028</td>
<td>19.40%</td>
<td>5.40</td>
</tr>
</tbody>
</table>
2.2 The Main Causes of Serious Pollution

Industry consumes a lot of energy. The main consumption of energy was raw coal, electricity and washed coal. The energy consumption accounted for more than 70% of the total in the whole city.

Industrial layout and structure was irrational. Due to historical reasons, the main industrial area of Liuzhou city arrange along the dominant wind axial direction.

Influence due to the residents lifestyle. Some residents and food stalls were still in the use of small coal stove, lower usage of clean fuel. Therefore, sulfur dioxide emission accumulate and stay in the low level of the atmosphere.

The special geographical position. Liuzhou special topography and weather conditions are not conducive to the proliferation of sulfur dioxide, was an objective conditions for the serious acid rain pollution in Liuzhou.

3. Environmental Control Measures and the Effects of Liuzhou

Measures against acid rain and sulfur dioxide pollution. In order to control sources of acid rain pollution, Liuzhou implemented the total sulfur dioxide emissions control and issued the permit system, phasing out of fluidized bed combustion boiler.

Strict implementation of energy conservation. Liuzhou government implemented strict environmental capacity of total amount control system and ecological function regionalization system, giving priority to the environmental capacity.

Adjust the energy structure and eliminate high energy industry. The government control the rapid growth of high energy consumption and high pollution industry, accelerated the elimination of backward production capacity, vigorously promoted clean production.
4. Effects of Liuzhou Environment Management

In 2009, the environmental situation of Liuzhou was in the best level for the last 20 years. The annual quality of drinking water in Liujiang river keep the class III national surface water quality standard; Urban air quality achieved 125 days of excellent, 231 days of good, urban air quality good rate reach 98%.

In “Chinese City Competitiveness Blue Book”, which published in 2009, the degree of Liuzhou city’s environmental comfort and natural environmental beauty entered the ranks of the nation’s top 10.

5. Development

Adhere to the development philosophy of "three simultaneous".

Improving the competitiveness of the city and expanding the space of urban development.

According to the concept of ecological and livable, promote urban carrying capacity.
Thank You!
Liuzhou City, located in the climatic belt transiting from mid-subtropical zone to south subtropical zone, is rich in light, heat, rain with long summers and short winters; This City, with average annual rainfall of 1300mm-1900mm, is very suitable for plants and animals to grow and breed. Currently, Liuzhou has about 210,000 hectares of natural grassy hills and slopes as grazing land, totally 40,800 hectares of water areas, 344 mid-small reservoirs totaling 6150 hectares, 2446 hectares of ponds, and 34,000 hectares of fishing rice fields.

By the end of 2012, the city’s total resident population has reached 3,824,500, with a rural population of 1,596,800, accounting for 41.75% of the total. The city government has always been stressing the efforts to develop the whole City’s breeding industry, secure its meat supply and meat price stability, and increase farmers’ income.
Breeding industry in Liuzhou city mainly concentrated in rural areas. Over years, livestock breeding in rural areas mainly exhibited as small amount of breeding in each backyard. With the development of economy and society, the demand for meat in the market increases sharply, and the breeding problem starts to highlight.

**Huge Market Fluctuation**

Meat price in market directly affects the income and breeding initiative of the farmers. Meat price goes high, the breeding amount of farmers increases, resulting in lower prices. Farmers reduce or give up breeding, the slaughter rate reduces, leading to meat price rise in the market.

This cycle repeats, resulting in fluctuations of meat price and supply in the market, which greatly hurts the interests of farmers and affects meat supply in the market.

**Not Conducive to Expand the Scale of Breeding**

Livestock farming in rural areas is small, lacks of development space, which limits the expanding of the breeding industry and implementation of modern breeding techniques. And rural breeding area is geographically dispersed, with low degree of specialization and socialization, which can not form a centralized breeding industry chain.

**Poor Ability in Resisting Diseases and Natural Disasters**

Polyculture in rural areas, poor isolation conditions, pollution between human and livestock, susceptible pathogenic microorganism population and outside farming of livestock, due to the climate change and migratory birds, it is difficult to control livestock disease, and easily leads to the occurrence of zoonotic diseases. As most of the farmers have low educational level, lacking of awareness of breeding science, safety breeding and disease prevention, resulting in an increased risk of breeding further.
Since 2008, the Liuzhou Municipal Government has issued *Decision on Accelerating Development of Breeding Industry*, to increase the proportion of breeding industry among industries, and promote rapid development of breeding industry.

For the animal husbandry, attach most importance to the vigorous development of herbivores; gradually improve the traditional breeding methods of live pigs, and try to develop standardized and large-scale breeding. For aquatic products, transform the traditional breeding to standardized breeding, and vigorously develop resource-saving breeding industries.

**MEASURES**

**Adjusting the Breeding Structure**

**MEASURES**

**Planning Development Layout Of Breeding Industry**

Guide the six counties and the four urban districts to rely on the existing industrial base, optimize production allocation, and highlight the regional advantage. So far it has initially formed breeding zones which are located in the counties of Liujiang, Liucheng and Luzhai, and focused on the large-scale, standardized and variety-improved breeding of pig, poultry, cattle and aquatic products. The northern counties of Rong’an, Sanjiang and Rongshui have developed advantaged and specialty large-scale breeding.
MEASURES

Financial Support

The municipal financial department will use 50% of annually increased agricultural productive investment in the breeding industry, and supplement 3 million RMB Yuan each year.

Loans with Financial Discount

Since 2009, the administrative departments of fishery and animal husbandry have signed cooperation agreements with five financial sectors, to issue loans with finance discount for the breeding industry through banks, and focus on supporting leading breeding enterprises, members of farmer specialized cooperatives, and large-scale farms that play a leading role in farmers’ income increment. The administrative departments of fishery and animal husbandry have annually arranged 10 million RMB Yuan for interest subsidy fund.

OUTCOMES

- Up to 2013, there were 4114 large-scale livestock breeders in the city, and had initially formed 63 various breeding zones, 28 breeding bases, and 232 breeding demonstration villages. The large scale breeding rate of live pig and poultry had respectively reached 55% and 65%. There were 113 large-scale aquaculture breeders who had a breeding area of more than 3 hectares. And 105 thousand square meter of cage culture had been developed.

- According to the statistic data of 2013, total production value of fishery and animal husbandry of the whole city was 1.31 billion dollar. The production value of fishery and animal husbandry accounted for 30.88% of total value of agricultural output. The annual total meat output was 223.6 thousand tons. The per capita net income of farmers getting from breeding was 191.93 dollar, which had a year-on-year growth of 14.53%.
The high cost and difficult acquirement of breeding lands adversely affect the rapid development of scale farming.

Large-scale farms have increased dramatically, but the scale farming layout is not rational. Many farms are not equipped with pollution treatment facilities, as a result, environmental pollution has aggravated in the breeding industry.

**CONCLUSION**

- The government have actively implemented the breeding land policies to increase farmers’ income, and guided farmers to manage the environment by compulsively requesting them to establish pollution treatment facilities.

- A breeding development pattern have been designed to generate more economic benefits, conserve more resources and produce less pollution. For instance, in Sanjiang County, cyprinoids are raised in rice fields. Cyprinoids are fed with plankton in fields, and their wastes become fertilizers. In this way, breeding lands are saved and less pollution is produced.
An Inquiry into the International Distribution of Anti-Environmentalism Sentiment

Allen F. Ketcham
Texas A&M University

Jeffrey T. Schulz
Central Community College
Abstract

This article is the final paper of a two-part study that analyzes and synthesizes the responses of 909 respondents from 20 colleges located in the following states: California, Minnesota, Nebraska (2), Ohio, Oklahoma (2), Texas (3), & Wisconsin and countries: Australia, China, England, Germany, Japan, Mexico, Nigeria, Philippines, & Turkey concerning the extent of the respondents' anti-environmentalism opinions. The earlier article in the study focused instead on the sample's views of pro-environmental attitudes. This concluding study focuses on the opposite: anti-environmental opinions. This analysis develops a four by three research matrix to probe the set of responses. The four rows include: **Anthropocentric** (considering the world in terms of human values), **Biocentric** (considering all life as having inherent equal value), **Spiritual** (considering the environment as a sacred matter), and **Extreme** (exaggerated actions that exceed the norm). The three columns include: **Traditional**, **Modern**, and **Postmodern** viewpoints.

Introduction

Literature related to college students' anti-environmental attitudes is minimal at best. Studies comparing both United States college students and international students' anti-environmental attitudes are virtually nonexistent. Our research seeks to address this gap in the anti-environmental attitudinal literature. The overwhelming majority of environmental studies examining college students indicate that most have pro-environmental attitudes. Some recent supporting studies include (Levine and Strube 2012; McDougle et al. 2011; Cordano et al. 2010; O'Brien-McElwee and Brittain 2009; Koestner and Houlfort 2001; and Thapa 1999). In fact, attempting to find studies in the existing literature related to United States college students or international college students having anti-environmental attitudes has proven difficult. Our study, however, provides evidence that some college students, both domestic and international, don't always possess positive views toward the environment. Our study is exploratory in nature and will observe this phenomenon.

The approach to the Review of Literature section will be twofold. First, a brief discussion of the very few studies that exist showing college students’ anti-environmental attitudes will be provided; and second, an overview is discussed of what United States and international researchers have discovered when college students have not responded in a favorable way to the environmental movement.

Review of the Literature

Thapa (1999) suggests, “There have been a number of studies of college students focusing on their environmental attitudes, intentions to practice environmentally responsible behaviors, and self-reported behaviors” (p. 434). Thapa believes studying college students’ environmental attitudes and behaviors merits attention because they will be future educators, policy makers, planners, and administrators of future environmental issues. Her study suggests that college students, even if they have positive ideas about the environment, still show they are not willing to sacrifice materialistic comforts for the sake of the environment. The conclusion of her study was that overall, college students were sympathetic toward the environment, but when it came to behaviors, they were not very participative beyond recycling.

Brief Summary of Available Anti-Environmental Literature
Ash Allen (2010), a senior writer for the 24/7 Wall St. website, contributed to a book entitled *The Green Movement* (2010) by Debra A. Miller and discusses the irony of some companies claiming to be “green.” He suggests many companies are trying to show the government, the public, and their shareholders that they are trying to improve the environment yet they are still among the most prolific polluters.

Science correspondent Ronald Bailey of the publication *Reason* discusses in *Conserving the Environment* (2006) how with technological improvements, environmental issues such as air quality have improved dramatically. He suggests that the U.S.'s cleaner air has resulted in what he calls “twin contexts,” rising wealth and economic efficiency. He states that air quality has improved significantly since the 1970s and that American companies, consumers, and the government invest over $40 billion dollars each year on air pollution controls (Bailey 2006). Additionally, Bailey (2006) claims the government has spent $540 billion in water pollution control efforts since 1970 and that the EPA estimates that between 60% and 70% of lakes, rivers, and streams meet state quality goals. He also debunked Paul Ehrlich’s I=PAT theory and the theory back in 1970 that most species would be extinct by this point in time.

Jon Entine (2009) published a chapter in the book *The Environment* (2009), where he dismisses many European leaders’ views that the United States is a “slacker” in reducing greenhouse gas emissions. He believes that the U.S. starts from a higher base because of the longer transportation distances and larger homes. When these two differences are normalized, American greenhouse gas emissions or (GHGs) are in line with most European nations. He also makes the important point that the U.S. was the only industrialized country in which greenhouse gas emissions fell during the year of 2006. Compared to its Kyoto-protocol participants, U.S. emissions increased 6.6%, while other countries increased an average 21.1%.

**United States of America**

The findings of Levine and Strube (2012) claim that most Americans in general have positive attitudes about the environment; however, the relationship between environmental attitudes and ecological behaviors varies widely. Levine and Strube (2012), offer three reasons for this. First, the focus of much environmental research has been on respondents’ self-reporting of environmental attitudes. The second reason has to do with the Theory of Planned Behavior in which research has attempted to trace the paths of influence between attitudes and behavior. In other words, attitudes affect behavior to the extent that they influence intentions. The third focus in most environmental research has been the respondents' environmental knowledge. Levine and Strube (2012) posit “Overall levels of environmental knowledge are not very high” (p. 311).

Kozar and Connell (2010) conducted a study on upper-vs. lower-classmen and socially responsible knowledge. The researchers discovered that upper-classmen in the study were more likely to be better informed about labor issues and abuses in apparel production and tended to boycott a retailer brand because of labor abuses and pay a premium price for goods produced in a socially responsible manner. Lower-classmen seemed less influenced by a company’s socially responsible practices and policies when making apparel purchasing decisions. Very few of the lower-classmen and upper-classmen, however, boycotted because of labor or environmental abuse.
Clayton (2000) conducted a study on environmental justice and is aware that not everyone supports the idea. She defines “environmental justice” as: “The responsibility to other species and to future generations, and the rights of the environment” (p. 459). She suggests if people are aware of new factors such as decreased availability of resources, or a shift to long-term rather than a short-term perspective, it may lead people to change their original positions on environmental issues, and become more accepting of other people’s perspectives on environmental issues.

In a recent study by Klotz et al. (2014) on how college-age students perceive environmental sustainability, they suggest that students from different majors have different ideas of what successful environmental outcomes may be. For example, engineering students see success as improving quality of life and saving lives; however, in other fields of study such as the social sciences, the focus is on saving people from disease, poverty, and helping provide them with more opportunities. The researchers suggest that students from various majors may have different foci and may measure success in the environmental movement quite differently based on their major field of study.

**Canada, China, and Africa**

It must be stated that there was virtually no literature on international college students’ anti-environmental attitudes. The focus of the literature for international countries was primarily geared toward professors’ teaching pro-environmental behaviors and socially responsible environmental behaviors to their students. The studies would then focus on whether or not students had the motivation to be socially responsible and act in a pro-environmental way after being taught these behaviors.

In the case of some Ontario University students, a recent study by Martinello and Donelle (2012) found that many of Canada’s young adults have a limited inquiry into environmental concerns. However, as in the study by McDougle et al. 2011, Martinello and Donelle (2012) have found that while young Canadian students may not be “physically present” or involved in organizations related to the environment, they are, however, active in a different way when expressing concerns about the environment, and this is through online social networking. To date, Martinello and Donelle (2012) suggest that there are four themes young Canadian students are interested in: “Built Environment” which focuses on housing and transportation; “Natural Environment” which includes air quality, pollution and water quality; “Environmental Restoration” which means how young students plan for environmental recovery. Finally, “Engagement and Activism” which discusses students’ use of online social networking sites for environmental advocacy. The underlying concern in their research focuses on the few existing studies that focus on the perceived social, economic and environmental issues and concerns of young adult Canadians (18-24 years of age).

In a 2001 study on the risks of recycling and college students at McGill University in Canada, Koestner et al. found that when an attractive person was discussing the benefits of recycling to students who were very much against it and had an anti-environmental outlook, the college students reported significantly more favorable thoughts about the anti-recycling messages than when they were attributed to an unattractive source.

In China, Guixin (2010) states that environmental education is of significant importance for humankind. Guixin also suggests that the purpose of conducting
environmental education for students in China’s colleges and universities is to raise awareness of the environment for future teachers, and equally important, to train environmental education postgraduate students. Guixin also believes environmental education is important in China due to the contradiction between the needs of its population and availability of its resources.

According to Waktola (2009) “Lack of environmental awareness is one of the underlying causes of severe environmental degradation in Africa. Sixty-five percent of sub-Saharan Africa’s agricultural lands are estimated to be degraded” (p. 589). In many cases, poor families lack the resources and knowledge to keep from degrading their own environment. Their fragile and limited resources, poorly defined property rights, and limited access to financial resources prevent them from investing in environmental protection (Waktola, 2009). Waktola (2009) reaches a similar conclusion to what Guixin (2010) spoke of in China, that if the continent of Africa can offer quality education which relies on well-qualified teachers to teach about the environment, then environmental rehabilitation there can be successful. Further, Waktola believes two important measures can be taken to help Africa’s environmental degradation: First, by reviewing the college curriculum from multiple vantage points; and second, reintroducing outdoor-oriented environmental education in current academic spaces in universities in Africa.

This research attempts to show the differences in domestic and international college students’ responses to anti-environmental questions and scenarios. The reasoning behind why college students’ responses to anti-environmental questions and scenarios is complex. But, the self-emerging patterns in this study to the anti-environmental questions help to clarify vagueness in the literature on anti-environmental attitudes of college students.

Methodology
This is a massive study where questions were designed to study two categories: pro and anti-environmental sentiments. Because of space limitations, this paper examines the anti-environmental questions only. The pro-environmental category was investigated in a prior article, (Ketcham and Schulz, 2014). During the 2010-2011 time period, 909 college students in the United States, Australia, China, England, Germany, Japan, Mexico, Nigeria, Philippines, & Turkey filled out an attitudes questionnaire concerning the environment. Respondents generated 59,085 data points and the set of respondents was selected via a convenience sample. Before administering the instrument to students, the questions were well examined. Three universities studied the questions in focus groups. The pre-testing universities included Texas A&M University-Kingsville, University of Nebraska-Kearney and Humboldt State University. The pre-testing greatly enhanced the reliability of the instrument. The convenience sample was taken from the following schools:
The bi-dimensional Signification Model was then used as the foundation of the methodology (Ketcham et al., 2000, p.p. 4-7). The model navigates four “Value Clusters”. These value clusters represent the thought-eras suggested by Jean-François Lyotard et al., in his The Postmodern Condition: A Report on Knowledge.

What makes this study unique to current literature on this anti-environmental topic is that it develops a bi-dimensional four by four research matrix to probe the set of responses. The four environmental rows include Anthropocentric (considering the world in terms of human values), Biocentric (considering all life as having inherent equal value), Spiritual (considering the environment as a sacred matter), and Extreme (exaggerated actions that exceed the norm). The four self-emerging columns include Religious, Midwestern, Left-Progressive and Near/Far East data-point clusters.

Following are the Self-Emerging Groupings:

<table>
<thead>
<tr>
<th>Religious</th>
<th>Midwestern States</th>
<th>Left-Progressive</th>
<th>Near/Far East</th>
<th>Non-Pattern</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nigeria</td>
<td>Ohio</td>
<td>Australia</td>
<td>Turkey</td>
<td>Mexico</td>
</tr>
<tr>
<td>Oklahoma-2</td>
<td>Oklahoma-1</td>
<td>Germany</td>
<td>Philippines</td>
<td>United Kingdom</td>
</tr>
<tr>
<td>Minnesota</td>
<td>Nebraska-1 &amp; 2</td>
<td>California</td>
<td>China</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Texas-1,2,3</td>
<td>Wisconsin</td>
<td>Japan</td>
<td>(sometimes Minnesota)</td>
</tr>
</tbody>
</table>
How to Read the Graphs: The Clock

The graphs used in this paper are generally referred to as radar graphs. The authors chose to use these graphs because of the complexity of the data. The authors endeavor to use a clock metaphor. The very top of the graphs represents noon, a quarter way around the chart clockwise represents 3:00, the bottom is 6:00 and three-quarters around the graph clockwise is 9:00. When viewing the graphs clockwise, the sample closest to noon most agrees with the statement. So, as we move around the clock from noon to 11:30, we move from the most agree (noon) to the least agree (11:30). The “disagrees” are not in any particular order, except that the disagree scores are placed wherever the sample happens to lie in the agree.

Results

Anthropocentric

A quick summary of Table 1 shows that the three religious schools answer in a very Anthropocentric way from noon to two using the clock analogy. This religious set includes: Oklahoma (Oral Roberts University), Nigeria (Dutch Reformed), and Minnesota (Gustavus Adolphus College). On the other hand, China, and Japan disagree with this whole-heartedly. We can only speculate that the reason for China and Japan answering this way is because man is not separate from the environment, but part of it as depicted in Buddhism, Taoism, and Confucianism. Along with the Far East group, some of the Left-Progressive also do not accept this scenario as noted from about 8 to 11:30.

What makes this graph truly unique is that it has the highest number of “agrees” toward anti-environmentalism.

Table 2 shows that the poorest countries: Nigeria, Mexico, and the Philippines agree with this statement the most (noon to one). The Left-Progressive portion of the sample agrees the least with this question (from 9 to 11:30). However, the outlier here is clearly how Australian college students responded to this question. Beside a low level of agreeing, nearly 60% of Australian students disagreed with this statement. Clearly they are the outlier.

Noticeably, Table 3, the third anthropocentric question evokes a large degree of “disagree.” The Mexican and German sample reject this idea at over 80% each. Generally, the Left-Progressive (from about 7:30 to 11:30) do not care for this scenario. Nigeria accepts this idea the most. The Midwestern respondents tend to cluster (from 2:30 to 7) with a more “middle-of-the-road” approach.

Biocentric

The Near/Far East group shows general agreement with this scenario (noon to 3:30). The Left-Progressives tend to cluster in agreement a tad less from 1 to 6. The Midwestern portion of the sample disagreed with this statement (8 to 11:30). (See Table 4)

The Near/Far East sample set agrees with the second biocentric question (noon to 2). (See Table 5) Generally, the Midwestern portion disagrees with this statement which may mean that they, as Americans, feel as they have more control. With the exception of the United Kingdom, the other foreign colleges and universities agree with this statement (noon to 6:30), meaning they feel like they have less control over the environment.
In Table 6, Mexico and China have the strongest level of disagreement. However, when examining this graph from the top (noon) and winding around to 8 o’clock, there is a large amount of agreement (about 40% to 60%) among 16 of the 20 respondents.

**Spiritual**

Table 7 shows that 15 of the 20 represented colleges and universities agree with this statement at a rate of 60% to almost 100%. What is curious about this graph, however, is that the Far East and Left-Progressives do not care for this scenario (Wisconsin: 6:30 to 11:30).

Many of the respondents disagree with this statement at a level of 50% to 60%. The Left-Progressive do not care for this statement (California: 8:30 to 11:30). The Midwestern group tends to agree from 2 to 6:30. The two most religious schools, Oklahoma (Oral Roberts University) and Nigeria (Dutch Reformed) agree the most (noon to 12:30). This fits with their other positive answers with man-centered views reflected in this study. *(See Table 8)*

Table 9 shows that this statement is strongly rejected by most countries except Nigeria, which strongly agrees with this statement. Turkey tends to agree with this question at 39.6%. However, the Left-Progressive highly reject this statement at a rate of 60% or slightly higher as the star shape graph reflects. It is interesting that Japan has only 7% agree and 43% disagree, whereas China has just about the same agree and disagree (both near 40%).

**Extreme**

Table 10 is one of two graphs where the “disagrees” overwhelm the “agrees.” *(Table 12 is the other Graph). The “agrees” can only be seen because of the transparency. Both of these “overwhelming” graphs are in the Extreme category. This graph demonstrates how this idea is strongly rejected by the Left-Progressive. Also, disagreeing in a strong way, at nearly 70%, is Mexico.

Table 11 is interesting because the Near/Far East grouping (clustered from noon to 3:30), Japanese, Chinese, Turkey and Philippines portion of the sample tend to agree at levels of 50% to 60%. The Midwestern (middle-of-the-road) using the clock metaphor, are clustered from about 3 to 8. Finally, the Left-progressive (clustered from 9:30 to 11:30) are very much against this statement.

Table 12 is the other graph in the Extreme category where the “disagrees” overwhelm the “agrees.” As with Table Ten, the “agrees” can only be seen because of the transparency. Turkey, Japan, and Australia agree with this statement the most, but at a low level. Another interesting find in this graph is that Left-Progressive strongly disagree with this statement (8:30 to 11:30). But, the entire sample does not reject environmentalism.

**Conclusion**

This study can be framed by Justin Farrell’s concepts of “pro-wolf and anti-wolf.” In the mid-1990s an “ecological” controversy developed over reintroducing wolves to Yellowstone Park. Farrell documents that this debate involved the official actions of six presidents, $12,000,000 of research, dozens of congressional hearings, 120 public hearings, 160,000 public submissions to committees and, of course, opposing and to some degree contradictory technical reports from the “Pros” and “Antis” in this
environmental struggle. Farrell states that this ecological “wolf-war” continues unabated, with a “quasi-spiritual” quality to it.

However, Farrell demonstrates that below this environmental and scientific debate lies political and moral underpinnings. While claiming to be discussing “true” and “false” they are actually making claims concerning “right” and “wrong.” Farrell’s research fits well with the results of our study and the patterns in our findings because he is concerned with anti-environmentalism and its quasi-spiritual overtones. Our anthropocentric, biocentric, spiritual, and extreme research structure found patterns in the data that we did not expect. The researchers noticed natural groupings in the data grounded on religious, political and geographic cultural predisposition. These groups self-emerged from the data and imposed meaning on the data.

1) The Religious grouping is mankind-centered as opposed to environment-centered. These Christian universities clustered together when questions/scenarios placed “human” needs in contradistinction to the “earth.” This may have to do with the content of Table 7. – “people are made in God’s image.” Judeo-Christian traditions view the earth as made for man’s benefit, stewardship or custodianship (Genesis 2:15, Then the LORD God took the man and put him into the Garden of Eden to cultivate it and keep it. New American Standard Bible). Therefore, with their focus on “man,” it follows that the Religious grouping would see environmental questions in a more anti-environmental framework then other groupings.

2) The political clustering is the clearest of the self-emerging groups. The authors ascertain two groupings in the political sector: Left-Progressive and Midwestern. The Left-Progressive group clustered more than any other grouping. They clustered in ten of the twelve graphs. The Left-Progressive could also be called the “Greens” and includes Germany, where, according to a Guardian Newspaper poll, 68% of the people say they are liberal against 9% that say they are traditional. This grouping rejects most of these anti-environmental questions in the study. They generally hold the 8 to 11:30 positions in the clock metaphor. They are very stable in their pro-environmental positions and do not care for the questions in this study.

3) The Midwestern grouping consists of 7 Midwestern states. This group clearly clusters in over half of the graphs. The Midwestern grouping holds more “middle-of-the-road” opinions. They tend to be to be optimistic about environmental concerns and, therefore, slant slightly towards “anti-environmental.”

4) The Near/Far East grouping includes Turkey, Philippines China and Japan. The study indicates that China and Japan, rather than being “environmentalist” or “mankind centered,” are nature centered. When the scenario is set up where nature “wins” China and Japan agree in consort. This can be seen in the Biocentric section (Tables 4, 5 and 6).

5) The anthropocentric category had the greatest number of agreements in the sample. However, when this category was framed in a spiritual manner it evoked a considerable degree of “disagrees.” There were only two countries
that answered in a non-Anthropocentric way on one of two questions. Nigerians disagreed with the question “Environmental issues aren’t as big as they seem” and Australians, at 60%, disagreed with the question “The most pressing global issue is the unjust human condition—like wealth gap.”

6) The biocentric category focuses on nature. The sample tends to accept the power of nature, especially the Far Eastern respondents. Philippines, China, Minnesota, Nigeria, Turkey, Germany, Japan, California, and Texas 2 most agree with this category.

7) The spiritual category revealed ambiguity. Generally there was a mixture of agree and disagree responses. Nigeria, Turkey, Oklahoma 2, Nebraska 2, Texas 2, Ohio, and Oklahoma 1 were most likely to have favorable views toward the spiritual category.

8) The extreme category has the least accepted scenarios. The sample, understandably, is not attracted to an extreme position such as “I reject environmentalism”. Nigeria, Turkey, and Japan were most likely to possess “extreme” views on anti-environmentalism.

References


Table 1. *First Anthropocentric Question*

The earth is meant to be enjoyed by humans

- **Agree**
- **Disagree**

- **oklahoma-2 [R]**
- **nigeria [R]**
- **minnesota [R]**
- **nebraska-2**
- **texas-1**
- **nebraska-1**
- **philippines**
- **united kingdom**
- **wisconsin**
- **turkey**
- **hoio**
- **texas-3**
- **texas-2**
- **oklahoma-1**
Table 2. *Second Anthropocentric Question*

The most pressing global issue is the unjust human condition—like wealth gap

- Agree
- Disagree

<table>
<thead>
<tr>
<th>Country</th>
<th>Agree</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nigeria</td>
<td>100</td>
<td>0</td>
</tr>
<tr>
<td>Mexico</td>
<td>80</td>
<td>0</td>
</tr>
<tr>
<td>Philippines</td>
<td>60</td>
<td>0</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>40</td>
<td>0</td>
</tr>
<tr>
<td>Nebraska</td>
<td>20</td>
<td>80</td>
</tr>
<tr>
<td>Japan</td>
<td>10</td>
<td>90</td>
</tr>
<tr>
<td>Oklahoma</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>Texas</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>Australia</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>Germany</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>Wisconsin</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>California</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>Minnesota</td>
<td>0</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 3. *Third Anthropocentric Question*

Viewed spiritually, environmental issues are not as big as they seem

- Agree
- Disagree

<table>
<thead>
<tr>
<th>Country</th>
<th>Agree</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nigeria</td>
<td>100</td>
<td>0</td>
</tr>
<tr>
<td>Turkey</td>
<td>80</td>
<td>0</td>
</tr>
<tr>
<td>China</td>
<td>60</td>
<td>0</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>40</td>
<td>0</td>
</tr>
<tr>
<td>Nebraska</td>
<td>20</td>
<td>80</td>
</tr>
<tr>
<td>Japan</td>
<td>10</td>
<td>90</td>
</tr>
<tr>
<td>Oklahoma</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>Texas</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>Australia</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>Germany</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>Wisconsin</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>California</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>Minnesota</td>
<td>0</td>
<td>100</td>
</tr>
</tbody>
</table>

147
Table 4. First Biocentric Question

Nature will defeat humans at every turn

Table 5. Second Biocentric Question

Biodiversity cannot be preserved, because of many factors, including natural extinctions
Table 6. Third Biocentric Question

It is useless to try to change the course of Nature because Nature’s ways are too complex

Table 7. First Spiritual Question

Humans are special, because people are created in God’s divine image
Science should be about saving people and not saving the Earth

<table>
<thead>
<tr>
<th>Country</th>
<th>Agree</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>nigeria [R]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>oklahoma-2 [R]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>turkey</td>
<td></td>
<td></td>
</tr>
<tr>
<td>nebraska-2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>texas-2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ohio</td>
<td>40</td>
<td>60</td>
</tr>
<tr>
<td>california</td>
<td>30</td>
<td>70</td>
</tr>
<tr>
<td>mexico</td>
<td>20</td>
<td>50</td>
</tr>
<tr>
<td>japan</td>
<td>10</td>
<td>40</td>
</tr>
<tr>
<td>philippines</td>
<td>0</td>
<td>30</td>
</tr>
<tr>
<td>texas-3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>china</td>
<td></td>
<td></td>
</tr>
<tr>
<td>australia</td>
<td></td>
<td></td>
</tr>
<tr>
<td>united kingdom</td>
<td>15</td>
<td>85</td>
</tr>
<tr>
<td>minnesota [R]</td>
<td>15</td>
<td>85</td>
</tr>
<tr>
<td>texas-1</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>oklahoma-1</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>germany</td>
<td>70</td>
<td>30</td>
</tr>
<tr>
<td>nebraska-1</td>
<td>60</td>
<td>40</td>
</tr>
</tbody>
</table>
Table 9. *Third Spiritual Question*

Worrying about the environment detracts from my spiritual relationships

Table 10. *First Extreme Question*

Environmentalists do more harm than good
Table 11. Second Extreme Question

Recycling is acceptable, but extreme environmentalism goes too far

Table 12. Third Extreme Question

I reject environmentalism
Opportunities for Nebraska Business in India

Vani V. Kotcherlakota
Michael Lundeen
Research Division
Nebraska Department of Economic Development
“The United States is one of India’s largest trade and investment partners. U.S.-India bilateral trade in goods and services and the stock of Indian FDI in the United States have increased over the last decade, supporting thousands of U.S. jobs. Bilateral trade between our two countries is up since we began our Strategic Dialogue” (U.S. State Department, U.S. Relations With India, BUREAU OF SOUTH AND CENTRAL ASIAN AFFAIRS, Fact Sheet, August 25, 2014).

The main objective of the paper is to examine the trade and investment opportunities suggested by the quote above for Nebraska businesses in India. The paper is organized in four sections. In the first two, a brief profile of India is given followed by a brief profile of Nebraska. The third section analyzes Nebraska-India trade and the fourth discusses the Opportunities for Nebraska Businesses in India.

Profile of India

India is located in Southern Asia bordering on the Arabian Sea and the Bay of Bengal -- it is between Myanmar and Pakistan. The other neighboring countries are Bangladesh, Bhutan, China, and Nepal. It has an area of 3,287,263 sq.km. with 2,973,193 sq.km. being land and 314,070 sq.km. water. It is slightly more than one third the size of the United States.

The total Indian population was 1,278,119,445 (1.28 billion) as of March 1, 2015. The total male population was 656.6 million and total female population was 615.0 million. The sex ratio was 943 females per 1,000 males. Fifty percent of India’s population is between the ages of 0 and 25 years. Currently there are about 51 births per minute. India represents 17.3% of the world’s population, which implies that one out of six people on the planet live in India. With an annual growth rate of 1.58 percent, projections indicate that India’s population will surpass that of China by 2030. India is is expected to have 1.53 billion people by the end of 2030. Some of additional reasons identified as causing India’s rapidly growing population are: poverty, illiteracy, a high fertility rates, rapid declines in death rates, or mortality rates, and immigration from Bangladesh and Nepal. With such large, growing population numbers, the consumer market will be huge.

Literacy is regarded as an indicator of economic development. As given in the census, persons, age seven and above, who cannot “both write and read with understanding in any of the (Indian) languages” are considered illiterate. India has shown an improvement of almost nine percent in the literacy rate since 2000. Literacy increased from 65.4% in 2001 to 74.0% in 2011. The male literacy rate is 82.1% and the female literacy rate is 65.5%.

According to the 2014 estimates, 56.4% of GDP is household consumption; 12.4% is government consumption; investment in fixed capital is 29.6%; and investment in inventories is 8.2%. The percentage of exports of goods and services at 25.2% was less than the percentage of imports of goods and services at 31.8%. According to the GDP composition by sector, services (56.9%) contributed the most, followed by industry (25.8%) and agriculture (17.4%).

The principal agricultural products are: Rice, Wheat, Oilseed, Cotton, Jute, Tea, Sugarcane, Lentils, Onions, Potatoes, Dairy Products, Sheep, Goats, Poultry, and Fish.
India emphasizes the following industries: Textiles, Chemicals, Food Processing, Steel, Transportation Equipment, Cement, Mining, Petroleum, Machinery, Software, and Pharmaceuticals.

According to 2013 estimates, the labor force consisted of 487.3 million people. Forty-nine percent of the labor force is in agriculture, 31% in services, and 20% in industry. The unemployment rate is 8.8 percent and 29.8 percent of the population is below the poverty line. The 2013 trade estimates revealed that India has a current account deficit of $74.79 billion, with exports totaling $313.2 billion and imports totaling $467.5 billion. India’s export partners are UAE (12.3% of total exports); USA (12.2%); China (5%); Singapore (4.9%); and Hong Kong (4.1%). India’s import partners are: China (10.7% of total imports); UAE (7.8%); Saudi Arabia (6.8%); Switzerland (6.2%); and the USA (5.1%).

**Agriculture Sector**

Major investment developments in Indian agriculture are:

- Metahelix Life Sciences has launched a new variety of hybrid seeds for improved maize productivity. The new hybrid MM 2100 has a plant structure with upright leaves that allows higher growth and the cob size is not reduced even though there is less gap between plants.
- The International Crops Research Institute for Semi-Arid Tropics (ICRISAT) and Ramoji Film City (RFC) have signed a MoA (Memorandum of Agreement) on Sustainable Management of Water Resources and Sustainable Agriculture Development through the establishment of an Agriculture Theme Park at RFC.
- Tata Global Beverages (TGB) has initiated research and development (R&D) under Project Sustainable Plant Protection Formulation (S-PPF) to evaluate the viability of biological or non-pesticidal methods for plant protection of tea crops. The project is a collaborative effort between TGB, Rallis, and Tata Chemicals.
- ICSR plans to invest U.S. $5 million in upgrading research infrastructure in Africa. The funds will also be used for building scientific skills in Sub-Saharan Africa.
- The Agricultural and Processed Food Products Export Development Authority (APEDA) has signed a Memorandum of Understanding with Maharashtra State Warehousing Corporation (MSWC) for setting up of infrastructure for cold storage at Gultekdi, the wholesale market yard in Pune. The proposed project involves facilities for cold storage, pre-cooling, and blast freezing.

**Industry Sector**

- India’s manufacturing sector is vital for its economic progress.
- Its contribution to the GDP is 16 percent.
- Deloitte’s global index for 38 nations (2013) ranked India as the fourth most competitive manufacturing nation.
- Saudi Arabia-based Sabic, a manufacturer of fertilizers, polymers, and raw materials used in polyester fibers, has started a technology center in Bangalore.
- Manufacturing companies in Japan view India as the top destination for investments for the next three years.
- India is rated among the top 10 markets in Cadbury's global business.
- U.S. based General Electric Co. is planning to make India a major global manufacturing hub.

Service Sector

- The services sector is a vital component of the Indian Economy.
- It accounts for 60 percent of the country's GDP.
- Business process out sourcer Hinduja Global Solutions (HGS) has established a new center in New Jersey, U.S.
- Amazon, Inc. launched same-day delivery in Mumbai in March, 2014.
- Indian Angel Network (IAN) along with tire-maker Michelin has started a logistics initiative with the objective of making movement of produce from farms to markets a more efficient exercise. The initiative, known as Farm to Market Logistics (F2ML), is an incubator under the management of IAN and supported by Michelin. The initiative will attempt to make the food supply chain produce less waste through better practices, behaviors, and solutions.
- The country's banking industry will be the world's third largest in asset size by 2025, per a report by the Boston Consulting Group (BCG) India, prepared in collaboration with a leading industry organization and the Indian Banks Associations (IBA).
- India is today one of the leading destinations for high-end diagnostic services, with significant capital investment in advanced diagnostic facilities.

Nebraska Profile

Nebraska is located in the center of the United States – it is virtually land-locked, although the Missouri River runs along the eastern border of the state. The river provides transport for some goods, minerals, and agricultural products, but was largely superseded as a major commercial transport system first by the transcontinental railroad in the late nineteenth century and, then, by the interstate highway system in the 1950s. For the record, Nebraska is 76,824 sq. mi. in area with 481 sq. mi. of water, mostly the Platte River, which runs horizontally across the state. At 200,330 sq. km., Nebraska equals 6.1 percent of India’s total area. The state ranks 16th in geographic area among the 50 states, however. Nebraska is bordered by Wyoming, South Dakota, and Minnesota on the north, Iowa and Missouri on the east, Kansas on the south, and Colorado on the west.

When it comes to population, Nebraska is India’s polar opposite – where India had a population density of 410.6 persons per sq. km. in 2013, Nebraska had a density of 23.8 persons per sq. mi., compared to a nationwide average of 87.4 persons per sq. mi.
Given that a square kilometer equals 38.6 percent of a square mile, India’s average population density is almost forty-five times that of Nebraska’s. The state’s estimated total population was 1,881,503 persons in 2014, which equals less than one percent of India’s. The Nebraska population grew 3.0 percent between 2010 and 2014, compared to a national growth rate of 3.3 percent and to an Indian growth rate of 5.4 percent. So, India’s population not only lives closer together, it has recently been growing at almost twice the pace of Nebraska’s.

In 2013, 50.2 percent of the Nebraska population was female compared to roughly 51 percent of the Indian population. That’s not a major difference. The real difference in populations between the two comes in the age distribution. In 2013, 38.3 percent of the Indian population was 19 years of age or younger; 24.9 percent of Nebraska’s population was under 18 years of age. At the other end of the age spectrum, Nebraska’s population 65 years and older equaled 14.1 percent of the total compared to 5.6 percent in India in 2013. It’s the comparatively younger population and its comparatively equal distribution between males and females that lead to the projections of rapid population growth in India in coming decades (growth that will allow India to surpass China as the most populous nation on earth) and, possibly, become a major market for Nebraska businesses.

A similarity between Nebraska and India is their reliance on agriculture as a leading contributor to gross domestic product (GDP). In 2012, there were a total of 49,929 farms in Nebraska with an average size of 907 acres. According to the U.S. Bureau of Economic Analysis (BEA), the agriculture sector contributed 10.4 percent of Nebraska’s GDP in 2013. That was exceeded only by the finance sector which contributed 17.2 percent of GDP and the manufacturing sector which contributed 12.7 percent. Nebraska’s top agricultural production commodities in 2012 were: cattle and calves, corn, soybeans, hogs, and wheat. Its top five agricultural export commodities were: soybeans, beef and veal, feeds and fodders, corn, and other plant products.

In 2014, the state’s labor force averaged 1,022,019 workers per month; the labor force unemployment rate averaged 3.5 percent (considerably below India’s reported rate of 8.8 percent and the national average of 6.2 percent). The Nebraska work force averaged 987,100 full- and part-time non-farm jobs in 2014. Manufacturing jobs averaged 97,000 in 2014, or 9.8 percent of all non-farm employment.

**Analysis of Nebraska-India Trade**

In this section, trade between Nebraska and India is analyzed. From Table 1, it is observed that Nebraska imports from India are consistently higher than Nebraska exports for the period 2008 to 2103. While the imports showed significant decline in 2010, the exports exhibited an increase. This change could be due to the fact that India adopted a new foreign trade policy in 2009 to 2014. The long term policy objective for the India government is to double India’s share in Global Trade by 2020. From 2011 on, a continuous increase in Nebraska imports from and exports to India is seen.

In Table 2, Nebraska imports from and exports to India as a percent of state totals are shown. The imports are consistently higher than exports for the study period. For imports, the percentage dropped significantly in 2010 whereas the exports depicted a steady marginal increase from 2008 to 2013.
Direction of Nebraska’s Trade  
Tables 3 and 4 depict the direction of Nebraska export and import trade.  
Tables 3 and 4 show that among Nebraska’s Top 32 Export Markets in 2013, India ranked 29th and, among Nebraska Import markets, India ranked sixteenth. This confirms that Nebraska imports more from India than it exports (overall, Nebraska exports more to the world than it imports from the world).

Composition of Nebraska's Trade  
Tables 5 and 6 below provide the composition by commodity of Nebraska export and import trade with India.  
The data for Nebraska exports to India shows that total exports have increased consistently over the study period. The maximum exports ($6,084,769) are for computer and electronic products for 2012 and the least exports ($2,820) are depicted for Nonmetallic Mineral Products for 2009.  
From Table 6, it is observed that there are wide fluctuations in total imports from India. The total imports declined from 2008 to 2010, then increased by $11 million, and then declined slightly. The maximum imports ($25,184,704) are depicted for Chemicals in 2008 and the least ($2,200) for Used or Second-hand Merchandise in 2012. Agricultural products have fluctuated over the years. Chemicals imports have steadily declined over time.

Opportunities for Nebraska Business in India  
The large population base in India and the productive nature of Nebraska agriculture make the two countries logical trading partners. Agricultural exporters in Nebraska experience tariff and non-tariff barriers to trade in India.  
In 2009, University of Nebraska President Milliken said “India is a major world economic player and intellectual leader and is already a significant trade partner for Nebraska. We expect continued growth and investment in the state from India and as such it is viewed as one of the university’s most important strategic partners.”  
The Table 7 below provides the annual number of identified Nebraska exporting and importing companies.  
There are more exporters than importers in Nebraska, however, both have increased in number over the period 2008-2012. It is also likely there is some overlap, where one company is counted as both an exporter and importer.  
India’s foreign trade policy form 2014-19 has been designed to include long-term and medium-term strategies to boost overall growth of India’s foreign trade, in part, by enhancing the competitiveness of small business (World Bank. 2014, Doing Business 2015: Going Beyond Efficiency. Washington, DC). Other policies take an integrated view of the overall development of India’s foreign trade and go beyond the traditional focus on pure exports. In a policy document, it is stated that “Trade is not an end in itself, but a means to economic growth and rational development. The primary purpose is not the mere earning of foreign exchange, but the stimulation of greater economic activity.” Diversification marks the latest trend in India’s foreign trade -- trade is no longer confined to a few goods or a few countries. Presently, India exports 7,500 items to about 190 countries and, in its import kitty, there are 6,000 items from 140 countries. It has unveiled the changing pattern of India’s foreign trade.
The main conclusion from this study is that, with the recent liberalization of international trade policy, the opportunities for Nebraska businesses in India are immense and increasing. But, as the U.S. State Department has noted, India’s large, inviting domestic market comes with potential problems:

“India’s sizeable and rapidly growing domestic market, growing financial markets, large English speaking population, and stable democratic government make it an attractive market for investors. However, India underperforms relative to its vast potential. Major areas of concern include corruption, taxes, caps on foreign direct investment (FDI), inadequate financing at reasonable rates, complex and lengthy investment approval and land acquisition processes, antiquated labor laws, and poor contract sanctity and enforcement of arbitration judgments. While the government has taken encouraging action on several of these fronts in the past year, investors remain wary. There had been doubts about the second United Progressive Alliance (UPA II) government’s ability to implement needed reforms. Investors are waiting to see which policy direction the new Bharatiya Janata Party (BJP) - led National Democratic Alliance (NDA) government, which decisively won the May 2014 national elections, will take. Most observers expect a more decisive and pro-business polity” (U.S. State Department, Department of State: 2014 Investment Climate Statement, June 2014).

So, Nebraska businesses need to enter the Indian economy with their eyes open and after a realistic evaluation of the opportunities and costs.

References
Central Intelligence Agency (CIA), CIA World Factbook, 2015
USDOC, Bureau of Economic Analysis, REIS Data, 2015
U.S. State Department, Department of State: 2014 Investment Climate Statement, June 2014
Table 1:

![Nebraska Imports from & Exports to India, 2008 to 2013](source: USDOC, International Trade Administration, 2015)

Table 2:

![Nebraska Imports from & Exports to India as % of State Totals, 2008 to 2013](source: USDOC, International Trade Administration, 2015)
Table 3:

<table>
<thead>
<tr>
<th>Partner</th>
<th>Value of 2013</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>World</td>
<td>$7,393,351,660</td>
<td>--</td>
</tr>
<tr>
<td>Canada</td>
<td>2,173,538,203</td>
<td>1</td>
</tr>
<tr>
<td>Mexico</td>
<td>1,157,312,993</td>
<td>2</td>
</tr>
<tr>
<td>China</td>
<td>588,619,711</td>
<td>3</td>
</tr>
<tr>
<td>Japan</td>
<td>565,661,554</td>
<td>4</td>
</tr>
<tr>
<td>South Korea</td>
<td>294,911,902</td>
<td>5</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>243,659,566</td>
<td>6</td>
</tr>
<tr>
<td>Australia</td>
<td>236,762,163</td>
<td>7</td>
</tr>
<tr>
<td>Netherlands</td>
<td>215,346,954</td>
<td>8</td>
</tr>
<tr>
<td>Germany</td>
<td>145,379,711</td>
<td>9</td>
</tr>
<tr>
<td>Brazil</td>
<td>126,997,116</td>
<td>10</td>
</tr>
<tr>
<td>Italy</td>
<td>114,185,238</td>
<td>11</td>
</tr>
<tr>
<td>France</td>
<td>111,836,181</td>
<td>12</td>
</tr>
<tr>
<td>Taiwan</td>
<td>102,005,303</td>
<td>13</td>
</tr>
<tr>
<td>Belgium</td>
<td>98,919,283</td>
<td>14</td>
</tr>
<tr>
<td>Thailand</td>
<td>67,048,709</td>
<td>15</td>
</tr>
<tr>
<td>Viet Nam</td>
<td>59,663,171</td>
<td>16</td>
</tr>
<tr>
<td>New Zealand</td>
<td>57,150,782</td>
<td>17</td>
</tr>
<tr>
<td>Argentina</td>
<td>56,346,039</td>
<td>18</td>
</tr>
<tr>
<td>South Africa</td>
<td>54,920,991</td>
<td>19</td>
</tr>
<tr>
<td>Spain</td>
<td>53,181,138</td>
<td>20</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>51,959,102</td>
<td>21</td>
</tr>
<tr>
<td>Singapore</td>
<td>50,630,709</td>
<td>22</td>
</tr>
<tr>
<td>Russian Federation</td>
<td>50,045,212</td>
<td>23</td>
</tr>
<tr>
<td>Chile</td>
<td>38,059,347</td>
<td>24</td>
</tr>
<tr>
<td>Saudi Arabia</td>
<td>34,964,661</td>
<td>25</td>
</tr>
<tr>
<td>Israel</td>
<td>33,097,737</td>
<td>26</td>
</tr>
<tr>
<td>Philippines</td>
<td>30,804,020</td>
<td>27</td>
</tr>
<tr>
<td>Colombia</td>
<td>29,714,400</td>
<td>28</td>
</tr>
<tr>
<td>India</td>
<td>27,181,173</td>
<td>29</td>
</tr>
<tr>
<td>Ukraine</td>
<td>26,161,701</td>
<td>30</td>
</tr>
<tr>
<td>Iraq</td>
<td>25,032,265</td>
<td>31</td>
</tr>
<tr>
<td>Indonesia</td>
<td>24,305,464</td>
<td>32</td>
</tr>
</tbody>
</table>

Source: USDOC, International Trade Administration, 2015
### Table 4:

**Nebraska Imports for top 32 Import Markets, 2013**

<table>
<thead>
<tr>
<th>Partner</th>
<th>Value of Imports in 2013</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>World</td>
<td>$3,702,933,255</td>
<td>--</td>
</tr>
<tr>
<td>Canada</td>
<td>1,010,908,981</td>
<td>1</td>
</tr>
<tr>
<td>China</td>
<td>837,708,885</td>
<td>2</td>
</tr>
<tr>
<td>Germany</td>
<td>369,700,713</td>
<td>3</td>
</tr>
<tr>
<td>Japan</td>
<td>249,443,264</td>
<td>4</td>
</tr>
<tr>
<td>Mexico</td>
<td>196,873,631</td>
<td>5</td>
</tr>
<tr>
<td>Italy</td>
<td>185,636,687</td>
<td>6</td>
</tr>
<tr>
<td>France</td>
<td>85,938,715</td>
<td>7</td>
</tr>
<tr>
<td>Austria</td>
<td>67,892,142</td>
<td>8</td>
</tr>
<tr>
<td>Taiwan</td>
<td>67,529,539</td>
<td>9</td>
</tr>
<tr>
<td>Ireland</td>
<td>59,063,510</td>
<td>10</td>
</tr>
<tr>
<td>Belgium</td>
<td>50,061,769</td>
<td>11</td>
</tr>
<tr>
<td>Thailand</td>
<td>48,041,851</td>
<td>12</td>
</tr>
<tr>
<td>Viet Nam</td>
<td>37,752,460</td>
<td>13</td>
</tr>
<tr>
<td>Sweden</td>
<td>33,955,678</td>
<td>14</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>33,045,423</td>
<td>15</td>
</tr>
<tr>
<td>India</td>
<td>32,415,474</td>
<td>16</td>
</tr>
<tr>
<td>South Korea</td>
<td>28,527,073</td>
<td>17</td>
</tr>
<tr>
<td>Macau; SAR of China</td>
<td>23,048,804</td>
<td>18</td>
</tr>
<tr>
<td>Brazil</td>
<td>21,094,048</td>
<td>19</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>15,624,457</td>
<td>20</td>
</tr>
<tr>
<td>Israel</td>
<td>15,146,371</td>
<td>21</td>
</tr>
<tr>
<td>Chile</td>
<td>12,349,264</td>
<td>22</td>
</tr>
<tr>
<td>Poland</td>
<td>11,660,831</td>
<td>23</td>
</tr>
<tr>
<td>Netherlands</td>
<td>11,622,276</td>
<td>24</td>
</tr>
<tr>
<td>Spain</td>
<td>11,196,261</td>
<td>25</td>
</tr>
<tr>
<td>New Zealand</td>
<td>11,114,080</td>
<td>26</td>
</tr>
<tr>
<td>Switzerland</td>
<td>10,461,372</td>
<td>27</td>
</tr>
<tr>
<td>Dominican Republic</td>
<td>10,313,160</td>
<td>28</td>
</tr>
<tr>
<td>Indonesia</td>
<td>10,132,385</td>
<td>29</td>
</tr>
<tr>
<td>Hungary</td>
<td>9,645,953</td>
<td>30</td>
</tr>
<tr>
<td>Qatar</td>
<td>9,387,748</td>
<td>31</td>
</tr>
<tr>
<td>Finland</td>
<td>8,758,029</td>
<td>32</td>
</tr>
</tbody>
</table>

Source: USDOC, International Trade Administration, 2015
Table 5:

<table>
<thead>
<tr>
<th>Item</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOTAL</td>
<td>$15,798,739</td>
<td>$12,827,896</td>
<td>$17,817,697</td>
<td>$15,188,550</td>
<td>$23,492,721</td>
<td>$27,181,173</td>
</tr>
<tr>
<td>336–TRANSPORTATION EQUIPMENT</td>
<td>631,822</td>
<td>440,216</td>
<td>256,182</td>
<td>371,128</td>
<td>631,105</td>
<td>7,205,936</td>
</tr>
<tr>
<td>334–COMPUTER AND ELECTRONIC PRODUCTS</td>
<td>3,966,027</td>
<td>2,805,619</td>
<td>4,299,905</td>
<td>5,407,000</td>
<td>6,084,769</td>
<td>4,646,014</td>
</tr>
<tr>
<td>339–MISCELLANEOUS MANUFACTURED COMMODITIES</td>
<td>761,646</td>
<td>829,679</td>
<td>877,670</td>
<td>644,511</td>
<td>1,461,659</td>
<td>4,253,459</td>
</tr>
<tr>
<td>332–FABRICATED METAL PRODUCTS; NESOI</td>
<td>2,420,728</td>
<td>3,247,331</td>
<td>5,139,483</td>
<td>1,763,266</td>
<td>5,317,733</td>
<td>3,506,854</td>
</tr>
<tr>
<td>325–CHEMICALS</td>
<td>2,548,715</td>
<td>1,124,707</td>
<td>1,817,716</td>
<td>1,539,031</td>
<td>1,498,495</td>
<td>2,014,991</td>
</tr>
<tr>
<td>311–FOOD MANUFACTURES</td>
<td>462,982</td>
<td>68,545</td>
<td>1,122,729</td>
<td>519,501</td>
<td>563,542</td>
<td>1,954,491</td>
</tr>
<tr>
<td>333–MACHINERY; EXCEPT ELECTRICAL</td>
<td>1,730,207</td>
<td>2,164,280</td>
<td>2,096,052</td>
<td>2,862,256</td>
<td>2,878,772</td>
<td>1,444,768</td>
</tr>
<tr>
<td>335–ELECTRICAL EQUIPMENT; APPLIANCES &amp; COMPS</td>
<td>1,266,924</td>
<td>736,430</td>
<td>1,124,969</td>
<td>788,788</td>
<td>733,819</td>
<td>1,026,125</td>
</tr>
<tr>
<td>326–PLASTICS &amp; RUBBER PRODUCTS</td>
<td>713,134</td>
<td>413,144</td>
<td>184,731</td>
<td>700,800</td>
<td>343,827</td>
<td>223,196</td>
</tr>
<tr>
<td>111–AGRICULTURAL PRODUCTS</td>
<td>439,689</td>
<td>547,794</td>
<td>1,122,729</td>
<td>519,501</td>
<td>293,703</td>
<td>210,194</td>
</tr>
<tr>
<td>316–LEATHER &amp; ALLIED PRODUCTS</td>
<td>36,703</td>
<td>126,659</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>194,399</td>
</tr>
<tr>
<td>327–NONMETALLIC MINERAL PRODUCTS</td>
<td>9,794</td>
<td>2,820</td>
<td>23,895</td>
<td>42,945</td>
<td>0</td>
<td>158,045</td>
</tr>
<tr>
<td>323–PRINTED MATTER AND RELATED PRODUCTS; NESOI</td>
<td>15,223</td>
<td>79,893</td>
<td>62,313</td>
<td>263,647</td>
<td>100,208</td>
<td>100,208</td>
</tr>
<tr>
<td>313–TEXTILES &amp; FABRICS</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>13,922</td>
<td>58,869</td>
<td></td>
</tr>
<tr>
<td>331–PRIMARY METAL MFG</td>
<td>22,850</td>
<td>52,450</td>
<td>73,116</td>
<td>145,090</td>
<td>61,136</td>
<td>58,510</td>
</tr>
<tr>
<td>990–SPECIAL CLASSIFICATION PROVISIONS; NESOI</td>
<td>33,142</td>
<td>22,171</td>
<td>241,780</td>
<td>23,624</td>
<td>3,069,990</td>
<td>32,597</td>
</tr>
<tr>
<td>322–PAPER</td>
<td>6,222</td>
<td>10,070</td>
<td>0</td>
<td>105,372</td>
<td>19,800</td>
<td>13,362</td>
</tr>
<tr>
<td>920–USED OR SECOND-HAND MERCHANDISE</td>
<td>297,325</td>
<td>99,925</td>
<td>54,647</td>
<td>0</td>
<td>0</td>
<td>12,244</td>
</tr>
<tr>
<td>337–FURNITURE &amp; FIXTURES</td>
<td>42,136</td>
<td>12,594</td>
<td>18,437</td>
<td>5,544</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>321–WOOD PRODUCTS</td>
<td>0</td>
<td>2,950</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>314–TEXTILE MILLS PRODUCTS</td>
<td>0</td>
<td>0</td>
<td>4,978</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>212–MINERALS &amp; ORES</td>
<td>0</td>
<td>12,161</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Source: Office of Trade and Economic Analysis (OTEAS), Industry and Analysis, International Trade Administration, U.S. Department of Commerce
### Table 6:

**Nebraska Imports from India by Commodity, 2008 to 2013**

<table>
<thead>
<tr>
<th>Item</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOTAL</td>
<td>$40,259,936</td>
<td>$35,261,774</td>
<td>$22,898,813</td>
<td>$33,374,229</td>
<td>$31,973,770</td>
<td>$32,415,474</td>
</tr>
<tr>
<td>315—APPAREL MANUFACTURING PRODUCTS</td>
<td>301,019</td>
<td>305,474</td>
<td>1,274,742</td>
<td>6,002,038</td>
<td>6,202,039</td>
<td>8,343,619</td>
</tr>
<tr>
<td>334—COMPUTER AND ELECTRONIC PRODUCTS</td>
<td>1,542,367</td>
<td>2,189,212</td>
<td>4,655,857</td>
<td>4,131,713</td>
<td>3,207,369</td>
<td>4,502,203</td>
</tr>
<tr>
<td>331—PRIMARY METAL MFG</td>
<td>549,831</td>
<td>230,390</td>
<td>660,891</td>
<td>6,607,434</td>
<td>8,360,279</td>
<td>4,106,384</td>
</tr>
<tr>
<td>336—TRANSPORTATION EQUIPMENT</td>
<td>1,110,067</td>
<td>900,633</td>
<td>506,417</td>
<td>726,151</td>
<td>1,748,558</td>
<td>2,476,614</td>
</tr>
<tr>
<td>311—FOOD MANUFACTURES</td>
<td>47,944</td>
<td>112,875</td>
<td>2,381,702</td>
<td>1,018,175</td>
<td>1,147,096</td>
<td>2,332,828</td>
</tr>
<tr>
<td>327—NONMETALLIC MINERAL PRODUCTS</td>
<td>3,581,423</td>
<td>2,134,014</td>
<td>2,243,901</td>
<td>1,850,506</td>
<td>1,850,467</td>
<td>2,158,271</td>
</tr>
<tr>
<td>333—MACHINERY, EXCEPT ELECTRICAL</td>
<td>4,108,747</td>
<td>2,342,596</td>
<td>3,948,417</td>
<td>2,520,109</td>
<td>2,112,290</td>
<td>1,734,517</td>
</tr>
<tr>
<td>960—GOODS RET TO CA; US GOODS RET&amp;REIMPS</td>
<td>6,201</td>
<td>975,769</td>
<td>108,672</td>
<td>232,679</td>
<td>115,029</td>
<td>1,596,682</td>
</tr>
<tr>
<td>325—CHEMICALS</td>
<td>25,184,704</td>
<td>22,853,994</td>
<td>4,502,785</td>
<td>5,548,717</td>
<td>3,051,735</td>
<td>1,487,798</td>
</tr>
<tr>
<td>328—PLASTICS &amp; RUBBER PRODUCTS</td>
<td>143,185</td>
<td>354,526</td>
<td>477,869</td>
<td>1,597,057</td>
<td>1,232,812</td>
<td>842,208</td>
</tr>
<tr>
<td>314—TEXTILE MILLS PRODUCTS</td>
<td>1,660,982</td>
<td>1,216,837</td>
<td>729,113</td>
<td>514,504</td>
<td>476,376</td>
<td>841,557</td>
</tr>
<tr>
<td>332—FABRICATED METAL PRODUCTS; NESOI</td>
<td>331,563</td>
<td>410,001</td>
<td>410,294</td>
<td>607,045</td>
<td>843,377</td>
<td>788,477</td>
</tr>
<tr>
<td>111—AGRICULTURAL PRODUCTS</td>
<td>0</td>
<td>355,793</td>
<td>307,924</td>
<td>1,351,285</td>
<td>509,588</td>
<td>401,599</td>
</tr>
<tr>
<td>339—MISCELLANEOUS MANUFACTURED COMMOD</td>
<td>405,314</td>
<td>370,315</td>
<td>428,844</td>
<td>294,870</td>
<td>395,848</td>
<td>287,366</td>
</tr>
<tr>
<td>335—ELECTRICAL EQUIP.; APPLIANCES &amp; COMPS</td>
<td>369,598</td>
<td>100,386</td>
<td>69,605</td>
<td>164,851</td>
<td>123,385</td>
<td>166,490</td>
</tr>
<tr>
<td>322—PAPER</td>
<td>38,737</td>
<td>0</td>
<td>10,645</td>
<td>2,669</td>
<td>46,271</td>
<td>120,137</td>
</tr>
<tr>
<td>316—LEATHER &amp; ALLIED PRODUCTS</td>
<td>76,588</td>
<td>22,602</td>
<td>62,719</td>
<td>11,562</td>
<td>5,441</td>
<td>113,492</td>
</tr>
<tr>
<td>337—FURNITURE &amp; FIXTURES</td>
<td>87,532</td>
<td>57,791</td>
<td>42,244</td>
<td>119,708</td>
<td>58,588</td>
<td>86,016</td>
</tr>
<tr>
<td>321—WOOD PRODUCTS</td>
<td>94,188</td>
<td>36,974</td>
<td>18,738</td>
<td>26,525</td>
<td>20,313</td>
<td>20,806</td>
</tr>
<tr>
<td>313—TEXTILES &amp; FABRICS</td>
<td>0</td>
<td>0</td>
<td>14,106</td>
<td>38,910</td>
<td>235,845</td>
<td>7,810</td>
</tr>
<tr>
<td>990—SPECIAL CLASSIFICATION PROVs; NESOI</td>
<td>0</td>
<td>176,335</td>
<td>20,728</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>920—USED OR SECOND-HAND MERCHANDISE</td>
<td>9,068</td>
<td>2,778</td>
<td>0</td>
<td>3,268</td>
<td>2,200</td>
<td>0</td>
</tr>
<tr>
<td>323—PRINTED MATTER &amp; RELATED PRODS; NESOI</td>
<td>67,637</td>
<td>2,831</td>
<td>3,000</td>
<td>2,653</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>312—BEVERAGES &amp; TOBACCO PRODUCTS</td>
<td>329,081</td>
<td>269,648</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>112—OTHER ANIMALS</td>
<td>204,170</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>239,283</td>
<td>0</td>
</tr>
</tbody>
</table>

Source: Office of Trade and Economic Analysis (CTEA), Industry and Analysis, International Trade Administration, U.S. Department of Commerce
Table 7:

<table>
<thead>
<tr>
<th>Year</th>
<th>Importers</th>
<th>Exporters</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>1,397</td>
<td>1,886</td>
</tr>
<tr>
<td>2009</td>
<td>1,312</td>
<td>1,755</td>
</tr>
<tr>
<td>2010</td>
<td>1,428</td>
<td>1,871</td>
</tr>
<tr>
<td>2011</td>
<td>1,513</td>
<td>1,924</td>
</tr>
<tr>
<td>2012</td>
<td>1,516</td>
<td>1,945</td>
</tr>
</tbody>
</table>

Ethics in Education:
Historical Influence of Religious Elementary Schools

Courtney Kulcak
Barba Aldis Patton
Teresa Lesage Clements
Moira Baldwin
University of Houston - Victoria
Abstract
St. Philip Catholic School in El Campo, Texas: PK3 – 8th grade served as our model school. It is a typical religious elementary school in the diocese. The manner in which students are taught was the focus of our research as research is finding more and more students are lacking integrity both in their personal beliefs and in their academic society.

Introduction:
The mission statement guides all in the school, teachers, students, educational activities, etc. The statement is: To Know, Love and Serve God and Others. As research is documenting over and over students just do not have the integrity of the past they had in years past. The research of this study found some basic ethics

Some of the basic ethics which are taught on a daily ongoing basis are:

1. Pre-K 3 and 4: taught basic manners such as taking turns, sharing, raising your hand with questions or before speaking, no name-calling, stay in line.
2. Lunch Manners (Beginning in Pre-K 3): Students wait until everyone is seated before eating; elbows off table, napkins in lap, pray before and after every meal.
3. Students stand up out of respect when Father enters their classroom.
4. Enter & exit Mass and have reverence at the altar.
5. Ladies first - hold doors (especially for teachers and adults) and help fellow students who need help such as one has dropped his/her books.
6. Religion lessons daily and incorporation of faith and good practices in all academic subjects throughout the day.
7. Stop & pray Hail Mary when a siren is heard as someone is in need.
8. The 8th grade participates in Etiquette class.
9. All students are to walk in straight, quiet line in halls to not disturb other classes.
10. Students are educated in a safe-environment each year.
11. Respect is always expected…..towards all adults, other students, Father, parents, subs…simply reinforcing what was hopefully already taught in their home.

12. No copying/cheating is ever allowed…..students are taught to take pride in their work

13. High moral standards expected…… students are told if they were uncomfortable talking about something in front of Father, then they should not say it ever.

14. Expectations are noted from day one and constantly reinforced…..consequences if expectations are not met, rewarded/praised with they are met

Remember the students while they are taught to have a great respect for Father, it is not just that he is the religion head of their school. Yes, he is the head of their school but these students are being taught to have respect for all, adults, parents, teachers and their peers. The respect the students have is not just toward beings but they also have a great respect for their country and the world around them.

The authors have only mentioned the basic rules and beliefs. Additional information to help one understand the influences which are part of the everyday education of students in a religious school are a large part of the research. Research did not reveal anything close to the expectations for students in the public school systems. We, the authors, plan to include more in a full paper on this topic as we are able to do additional research.
Some Teacher Professional Attitudes are Ethically Treacherous: Where are the Lines Drawn in the Sand?

*Teresa LeSage Clements*

*Moira J. Baldwin*

*Barba Aldis Patton*

*University of Houston-Victoria*
Abstract
There seems to be abundant cases of teachers having inappropriate relationship with his or her students and many of these are sexual. States and educator organizations have teacher ethic codes used for preparing classroom teachers and professional development, but some teachers will risk everything to engage in an immoral behavior. Greater training on what is appropriate behavior is specifically needed. Teacher preparation programs and schools cannot rely only on a set of written codes.

The Issue
Nearly every day you read or hear on the news a school teacher was caught in an immoral social relationship with a student. Many of these relationships begin with simple texting, and evolve into sexting and physical sex. Other examples include: A teacher takes middle and high-school students to adult novelty shop; A teacher loses job over moonlight modeling and texting provocative photos to students or on social media; A coach is arrested for having affair with student for five years between middle school and high school; A teacher is convicted after sex with students. These are all recent news headlines about teachers. Administers have similar issues, although these are not addressed in this paper.

Teacher immoral unprofessional behavior is extremely damaging to a child’s psychological well-being reaching into adulthood. Some children may never recover. The professional educator is supposed to create a learning environment that nurtures to fulfillment the potential of all students (AAE, 2015). Why does an educator with years of teacher education preparation in a university, completes state exams, and training risk everything (including family) to be involved with a child or a young adult in their school?

Moral Behavior Training
Headlines such as these demonstrate that there is a need to address teacher ethics in pre-service teacher programs and in school districts. Training is needed on what is ethical virtuous behavior. To help address that need, the Texas Education Agency (TEA, 2015) released 11 teacher ethics training modules. The modules address educator-student relationships and boundaries, use of social media, anger management and discipline, and off campus behavior. Each video is professionally created and direct with what is inappropriate teacher behavior. Texas has had a code of ethics for educators for over 30 years, but still some teachers cross boundaries.

Additional training is needed to include moral behaviors as well. Moral behaviors are built and need to be taught to people (Benninga, 2003). There are four components of moral maturity (Ibid in Bebeau, Rest, & Narvaez, 1999). The components are:
1) Moral sensitivity, the awareness of how our actions affect other people.
2) Moral judgment involves intuitions about what is fair and moral. It requires adults to make moral judgments about complex human activities.
3) Moral motivation requires a prioritization of moral values over personal values, particularly in professional settings.
4) Moral character requires individuals to act on their moral convictions.
Definitely more training is needed or plain old fashion teaching on what is correct behavior with students and what is not. The Texas videos are a good start and are to the point with examples of immoral and moral behavior. One main code covering teacher behavior is “The educator shall maintain appropriate professional educator-student relationships” (TEA, 2015). Does this sound like common sense? To many people it does. Yet, for some educators it is not.

References
Benninga, J. S. (2003). Moral and Ethical Issues in Teacher Education. ERIC Digest ED482699
Some Children are Left Behind: Teacher Retention & Attrition Impact on Student Achievement Education Work Experience Matters

*Teresa LeSage Clements*
*Barba Aldis Patton*
*Moira Jenkins Baldwin*
*University of Houston-Victoria*
Abstract

Some children are left behind academically. Research shows students with more experience teachers have greater student achievement and the opposite effect with an inexperienced teacher. The low performing schools with greater socioeconomic disadvantage students are proportionally even more disadvantaged with fewer experienced teachers. Students continue to receive less education with less experienced teachers each year compared to being taught by an experienced teacher. These students suffer the most unequal education, lower standardized test scores, not prepared for college rigor, and the lack of opportunity to learn skills for good jobs with more earning potential. In addition, these students are doomed to instructional losses that cannot be regained.

Teaching Experience Matters

Some children are left behind academically and may never catch up because year after year they attend poor schools and have inexperience teachers. Unfortunately, student achievement is lower in many schools with a majority of socio economically disadvantaged students. These schools have lower teacher retention and greater teacher attrition than suburban schools. Attrition is nearly 50% higher in poor schools than wealthier ones and new teachers, especially the brightest new teachers are more likely to leave (Alliance Excellent Education, 2005). There are serious student achievement opportunity differences. Recent studies show students with an experienced classroom teacher have greater student achievement than students with an inexperienced teacher year after year (Sawchuk, 2015). At the secondary level, students in poor or high minority schools are twice as likely to have an inexperienced teacher and have a drop outs rate as high as 50 % (Alliance Excellent Education, 2005). There are many factors encompassing the issue of teacher retention and attrition which, however, go beyond the scope of this investigation. What is important to communicate is the need to retain new teachers with efficacy in schools so they can gain positive teaching experiences to improve student achievement. The teacher’s work experiences during the first years are the most critical to the long-term development of teacher efficacy (Protheroe, 2008). The baby boomer teachers are retiring and the population of the United States is growing. Millions of new teachers are going to be needed and billions of dollars will be spent preparing them. Unfortunately, many of these new teachers will leave their chosen profession within five years.

Nearly any job requires prior work experience and training in one’s field to become competent, for example a medical doctor. A medical doctor needs years’ of courses, an internship, and practice experiences before
licensed. Would you choose to be treated by a medical doctor directly out of medical school or a medical doctor with several years of experience? The schools with greater teacher retention and lower attrition show higher student achievement, which helps students' reach their academic potential. It makes sense that a teacher with more teaching experience would have a greater impact on increasing student achievement. New teachers need to be retained in order to gain the skills needed over their first years of teaching so they can make a positive academic impact.

Cost to Tax Payers, Teachers, and Student Achievement

Billions of tax dollars are invested in new teachers and lost each year (Ingersoll & Merrill, 2010; LeSage Clements et al, 2013; Owen, 2015). New teachers entering the education work force then self-selecting out of teaching after investing many years of their life preparing to be a teacher is costly not only to the teacher, but to everyone. The billions are spent each year in teacher preparation programs, professional development training at school districts, recruitment, loss time, and especially in student achievement (Andrew 2009; Carroll & Foster, 2010; Darling-Hammond, 2003; Guarino, Santibanez, & Daley, 2006; Ingersoll, 2002; LeSage Clements et al 2013). Twenty percent of the new teachers leave during the first year (Fuller, 2002 in Gonzalez, Stallone-Brown, & Slate, 2003) and between 30 to 50% of new teachers leave the profession within five years (Abdalish, 2009; Alliance for Excellent Education, 2005; Darling-Hammond, 1998; Planty, et al, 2009; Watlington et al, 2010). The turnover rate for teachers varies considerably on the basis of a school’s location, racial composition, and free-lunch rate. However, turnover can be attributed to a number of factors, primarily retiring, quitting, taking a different job, and moving into a part-time teaching role. The leading cause of turnover is teacher dissatisfaction or leaving to pursue another job (Alliance for Excellent Education, 2005). Marshall & Marshall (2003) found 90% of the teachers they surveyed felt they were prepared to teach, but not prepared for the discipline issues. Another survey found most teachers want to remain in teaching and are devoted to their students, although the teachers deciding to leave site problems with lack of empowerment, poor school leadership, low trust levels, and lack of respect (Berry, Smilie, & Fuller, 2008). Nearly 540,000 teachers moved to other schools or left the profession in 2000 due to the feeling of isolation (Carroll & Fulton, 2004).

Research shows students with more experience teachers have greater student achievement and the opposite effect with an inexperienced teacher (DeAngelis & Presley, 2007). The low performing schools with greater socioeconomic disadvantage students are proportionally even
more disadvantage with fewer experienced teachers. Students continue to receive less education with less experienced teachers each year compared to being taught by an experienced teacher. The newer teacher lacks on the job teaching experience yielding an unsatisfactory learning environment for the students year after year, which hurts the quality of the student’s education and achievement (Flynt & Collins, 2009). The impact is even more prominent on student achievement in schools classified as low performing and as at risk with more socio economic disadvantaged and minority students, where teacher turnover is greater and attrition reaches 50% (Watlington et al, 2010; Planty, et al, 2009). These students suffer the most unequal education, lower standardized test scores, not prepared for college rigor, and the lack of opportunity to learn skills for good jobs with more earning potential. In addition, these students are doomed to instructional losses that cannot be regained (Sanders & Rivers, 1996 in Northeast Regional Resource Center, 2004).

One recent finding was that teachers with experience were effective in improving student achievement well after the 3 to 5 year mark. In fact, teacher experience between the 10th and 30th years improve student test scores by 40% in math and reading (Sawchuk, 2015). It takes three to seven years for new teachers to perform at the same level as an experienced teacher. Clearly an experience teacher in the classroom matters and it makes sense. We could choose to be optimistic and say the new teacher is just not prepared enough and needs more courses, more observation hours, more weeks or months of student teaching, more mentoring, etc., but the reality of the research on the new teacher and the academic effectiveness on student success is overwhelming. They are not as good as the experienced teacher. Research shows the most important factor in a child’s education is the quality of the teacher with the teacher’s work experience the most important factor (Chase, 2000). Definitely, more is needed to retain new teachers and help children reach their academic potential and experience success in school.
References


New Thinking About Urban Growth: Liujiang County

Lihua Li
Central Washington University
Abstract

“The New Road to Urbanization with Chinese Characteristics” that was put forward by the 18th Congress of the Chinese Communist Party, is being implemented, following the Congress, in Liujiang County of Luizhou City through a series of plans and policies. This is an analysis of the process of urbanization under those plans: The Twelfth Five-year Economic Plan for Liujiang County and The Research Report on Liujiang Urbanization. The paper depicts four of the major components: (1) background material on the urbanization of Liujiang County and the opportunities that both external and internal factors present at present, (2) problems of urban growth in Liujiang County, (3) the new thinking about urban growth and the policies that can enhance the urbanization in terms of developing competitive industries, accelerating facilities’ construction, promoting the equalization of public services, and eliminating the institutional barriers, and (4) a model of interaction between urbanization and industrialization to guide Liujiang’s development.

The Background of Urbanization Development in Liujiang County

The External Surroundings

Situated in central Guangxi, Liujiang County occupies an area of 2,539 square kilometers with a population of 562 thousand. With geographical advantages, it is located in the core economic zone within which the integration of Liuzhou, Laibin and Hechi has been planned. Liujiang, adjacent to Liuzhou Municipality which is the strongest industrial city in Guangxi. In January 2015 Liuzhou Municipality was approved as one of the new comprehensive pilots in National Plan for New Urbanization.

The Internal Surroundings

Liujiang, a place known for its abundance of rice and fish and named “the Commercial Centre in Central Guangxi”, has good basic conditions for industrial development.

Industry

There are more than 700 industrial enterprises in Liujiang, with automobile and automobile parts, machine-building industry as the pillar industry.

Agriculture
Liujiang is the base for Non-Staple Food Project for Liuzhou. It enjoys also high reputation in suburban specific agricultural products in Guangxi.

**Tertiary Industry**

It is the seat of ancient ruins of "Liujiang Man", which is known at home and abroad, and is rich in cultural heritages and tourist resources.

**The Problems of Urban Growth in Liujiang County:**
Public services in Liujiang County have not been developed as rapidly as those in Liuzhou City. Liujiang County lags behind in the following areas.

*Inadequate services are creating social problems.*

Social problems arising from land expropriation become more serious in the past few years. The expropriated farmers tend to receive land compensation and employment. Such benefits for land-expropriated farmers were not thought through; especially the problem how to put them into employment has not been solved. Those farmers are sinking into poverty after spending all of the compensation.

**New Thinking Addressing the Problems of Urban Growth in Liujiang County**

*Developing Competitive Industries Energetically*

**Improving the Quality of Industrialization**

We will speed up the construction of “the Industrial Corridor “characterized by the Xinxing Industrial Zone so as to form a new development pattern of “Multi-District Area”. In the next 5 years, Xinxing Industrial Zone will be developed as a small town, in which the size of population of the town will reach 50 thousand to 100 thousand. We will enhance our capability of independent innovation by making great efforts to research and develop the core technology in order to develop self-owned brands with core competitiveness. We will upgrade our competitive industries by using high tech and develop the following industries: agricultural product processing, new materials, new energy, etc.

**Targeted Agriculture Development**

Liujiang, has become the country's largest bi-annual cropping base of lotus roots, grapes and green onions. We will Establishment the standardized production base. The production-marketing combination modes, such as “leading enterprises +bases + farmers” and “farmers +supermarkets” will
be developed. The introduction of enterprises and projects for processing fruits and vegetables, silkworm, livestock products will be accelerated so as to extend the industrial chain.

**Modernizing Services**

Firstly, we will make great efforts to develop modern logistics, quicken the building of specified logistics park and the wholesale market. It is most important to build the Guangxi Changle Modern Logistics Park and the Airport Logistics Area in Xinxing Industrial Park. Secondly, we will speed up to build “the tourism corridor” and connect with “the Golden Tourism Circle” (i.e. a popular tourist route). This effort includes development of the popular farmer-run restaurants with high standards and adequate size. Thirdly, we will accelerate the formation of comprehensive commercial and logistics networks between Liujiang and Liuzhou by establishing rural distribution centers that link rural communities with the greater metropolitan area to support the establishment of the farmers’ shops and commercial centers.

**Accelerating the Construction of Infrastructure in Liujiang**

**Speeding up the Building of Transportation Infrastructure**

We should improve the internal traffic network by widening the main roads of our county and the three-dimensional traffic channel, under which the railway line crosses our county. We will increase the external traffic capacity by expanding the transport capacity of the railway lines and their reform between Hunan and Guangxi. We will try to speed up the extension and transformation of the roads between our county and its towns, and develop the short-journey public transportation between the counties and between the towns.

**Strengthening Supporting Facilities**

We will develop a new central area, mainly by strengthening the following public infrastructure, for instance, water supply and drainage; gas and power supply; sewage and garbage treatment, etc. We will build culture and art museums, science and technology museums, the parks, the new county commercial center and along-the-river scenery project.
Developing Healthy Small Towns

There are twelve towns in the County. We are planning to link them together by guiding them to develop further based on their different functions-orientation and industrial bases. For some towns, especially those with a large population, garbage treatment stations and sewage treatment plants should be built or rebuilt. We will improve our public service facilities and set up some high-level regional educational and health service centers to meet the needs of the rural residents.

Equalizing of Public Services

Equalizing Education
We will try to narrow the differences between Liujiang County and Liuzhou City in teaching resources and conditions in schools. We will steadily improve the overall arrangement and adjustment in the rural primary schools and high schools, reasonably allocate the educational resources for compulsory education.

Equalizing Health and Promoting Culture
We will further perfect the basic facilities and equipment so as to bridge the differences step by step between the different levels of County-level hospitals and the City-level hospitals. We will explore the potential national cultural resources and support some cultural projects with Liujiang local characteristics and compile folk songs of Zhuang nationality, firework-grabbing and Cai diao Opera characterized by Liujiang style and start to hold art festivals with the local customs of Zhuang nationality.

Equalizing Social Management
We will quicken the integration of the social security system in urban and rural areas, effectively quicken the linking up of the pension insurance of urban workers, the pension insurance of the farmers who have lost their land and the pension insurance of the urban and rural residents, integrate the standards for the lowest life guarantee for the urban and rural residents and the standards for the relief of the poor farmers with those for the Liuzhou residents.

Eliminating the Systematic Development Institutional Barriers between Urban and Rural Areas
Improving the Land Management System

We will encourage farmers to transfer the contractual right of land by means of subcontract, rent, exchange of land, and share-cooperation. We will improve the compensation system and set up the social security mechanism for the farmers whose land have been requisitioned and adopt specific measures to allow farmers to exchange their land for social security, for employment, or for stable earnings.

Furthering the Reform of Household registration System

We will establish a uniformed system for the urban and rural population registration and steadily reform the household registration system. We will actively promote the systematic reform in employment, education, medical care, pension and housing which is associated with the household registration so as to eliminate the systematic barriers in the binary structure for residents in urban and rural areas.

Conclusion

Liujiang County is taking advantage of unprecedented opportunities to speed up urbanization. Successful urbanization in Liujiang is the result of successful management of the reciprocal relationship between population growth and industrial development. A solid foundation has be laid and a platform for future industrialization is in place so that the expansion of its industrialization enhances and enriches both expansion and quality of the county: more people with a better quality of life.
References

Table 1: Comparison of Public Service-Oriented Indicators in 2013

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Per Capita Road Area</th>
<th>Pre-School Three-Year Enrollment Rate</th>
<th>Health Professionals/Per Thousand Population</th>
<th>Per Capita Public Green Space</th>
<th>Urban Sewage Treatment Rate/Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liuzhou (urban district)</td>
<td>11.72 m²</td>
<td>77%</td>
<td>12.1</td>
<td>11.1 m²</td>
<td>90%</td>
</tr>
<tr>
<td>Liujiang</td>
<td>3.26 m²</td>
<td>60%</td>
<td>2.5</td>
<td>5.4 m²</td>
<td>73%</td>
</tr>
</tbody>
</table>
BY THE NUMBERS:
HOW MESSAGE FRAMING AFFECTS OPINIONS OF NATIONAL STATISTICS

Dr. Colleen McDonough and Dr. Maria T. de Gordon
Neumann University

FORMAT OF THE TALK

• Brief Audience Survey
• Our Study
• Questions and Discussion
1. DID WE NEED OBAMACARE?

Yes or No?

1. In 2010, 90% of people in America had access to healthcare, and they were happy with the healthcare they were receiving.

2. In 2010, 30 million people in America did not have access to healthcare.
2. HOW DO YOU FEEL ABOUT WOMEN’S PROGRESS IN THE WORKPLACE?

Good or Bad?

1. Women broke a record this year - never before have so many Fortune 500 companies been run by women. 24 Fortune 500 companies were led by women CEOs.

2. Women broke a record this year - never before have so many Fortune 500 companies been run by women. Yet 95% of Fortune 500 companies were still led by male CEOs.

3. ARE THERE RACIAL INEQUALITIES IN THE JUSTICE SYSTEM?

Yes or No?

1. There are 42 million black men and women in this country, and only 2% of them are serving jail time.

2. People who identify themselves as black make up only 14% of the U.S. population, and yet they represent 43% of the population of people in jail.
4. IS CHILDHOOD POVERTY A PROBLEM?

Yes or No?

1. 15 million children in this country are living below the poverty level.

2. More than 80% of children in this country are NOT living in poverty.

5. HOW DO YOU FEEL ABOUT WOMEN’S PROGRESS IN THE MILITARY?

Good or Bad?

1. Women make up 15% of the active-duty military yet 90% of the military’s top-ranked Admirals and Generals are male.

2. 69 women in the military are Admirals or Generals.
6. IS ILLEGAL IMMIGRATION A PROBLEM?

Yes or No?

1. There are currently more than 11 million people living in the United States who are here illegally.

2. 96.4% of the people living in the United States are here legally.

7. ARE BLACKS UNDERREPRESENTED IN THE WORKFORCE?

Yes or No?

1. Currently, 11.4% of blacks, and only 5.3% of whites, are unemployed.

2. Currently, 2 million black people are unemployed, compared to 6.5 million white people.
8. IS DEPRESSION A PROBLEM?

Yes or No?

1. 30 million people in this country are taking antidepressants.

2. 90% of people in America are NOT on antidepressants.

9. DOES A COLLEGE DEGREE PAY OFF?

Yes or No?

1. For every $1 a high school graduate earns, a college graduate earns $1.65.

2. Over a lifetime of working, college graduates earn an average of $830,000 more than high school graduates.
10. ARE CIGARETTES A PROBLEM AMONG YOUNG PEOPLE?

Yes or No?

1. Cigarette smoking rates are at historic lows among young people. Only 16% of high school seniors in the U.S. reported smoking cigarettes in the past month.

2. Despite the fact that the number is decreasing, more than 700,000 high school seniors reported smoking cigarettes in the past month.

OUR STUDY
BACKGROUND

- Research demonstrates that message frame affects attitudes...

- A few notable examples:
  - Van Gorp et al., 2009 – immigration in the Netherlands
  - Loroz (2007) – recycling and safe sex
  - Lee (2013) – the environment

BACKGROUND

- And message frame also affects behaviors...

- A few notable examples:
  - Kidwell et al., (2013) - recycling
  - Updegraff et al., (2013) – flossing
  - Rothman and Salovey (1997) – health decisions
On a related note, it is well known that you can lie with statistics. For example...

- Meaningless comparisons
- Deceptive graphics
- Extrapolations
- Ignoring the baseline
On a related note, it is well known that you can lie with statistics

- For example...
  - Meaningless comparisons
  - Deceptive graphics
  - Extrapolations
  - Ignoring the baseline

**Most Dangerous Cities**
PUTTING IT ALL TOGETHER...

- Message frame matters
- It's possible to deceive people with statistics.
- So...what happens when you frame a statistic?
- Purpose of the Study: to investigate how framing of a sequence of actual statistics affects opinions on national issues.

METHOD

- Participants
  - 75 undergraduates
  - Representative of our student body
  - Participation was voluntary; no inducements were given

- Measures
  - Online survey presenting 10 national statistics
  - Participants shared opinions through a forced-choice, dichotomous question
  - 2 versions to allow for between-subjects comparisons
  - Statistics were presented as %s or raw numbers, counterbalanced across version

- Analysis
  - $\chi^2(\text{Version}) \times 2(\text{Response})$ Chi square test of independence utilized for each question.
  - ...8/10 of our questions were statistically significant
WE NEEDED OBAMACARE

V1: 90% have healthcare
V2: 30 million uninsured

WOMEN ARE MAKING PROGRESS IN BUSINESS

V1: 24 Female Fortune 500 CEOs
V2: 95% of Fortune 500 CEOs are male
CHILDHOOD POVERTY IS A PROBLEM

- **V1:** 15 million children are in poverty
- **V2:** 80% of children are not in poverty

WOMEN ARE MAKING PROGRESS IN THE MILITARY

- **V1:** 90% of Admirals/Generals are Male
- **V2:** 69 Females are Admirals/Generals
ILLEGAL IMMIGRATION IS A PROBLEM

- V1: There are 11 million illegals
- V2: 96.4% of the U.S. population is legal

DEPRESSION IS A PROBLEM

- V1: 30 million people take antidepressants
- V2: 90% of people do not take antidepressants
A COLLEGE DEGREE PAYS OFF

- V1: $1 high school = $1.65 college
- V2: college grads make $830,000 more over a lifetime

CIGARETTES ARE A PROBLEM AMONG YOUNG PEOPLE

- V1: 16% of H.S. seniors smoke
- V2: 700,000 high school seniors smoke
NON-SIGNIFICANT EFFECTS

- Are there ethnic disparities in jail?
  - 2% of black population is in jail
  - 43% of jailed population is black

- Are blacks underrepresented in the work force?
  - 11.4% of blacks are unemployed
  - 2 million blacks are unemployed

CONCLUSION

- Strong evidence to support our hypothesis that statistical frame matters
- The 2 non-significant effects were both about race – implicit bias in our participants?
- Findings are consistent with research demonstrating that message frame matters
- Here we add to the literature by demonstrating that a simple, carefully-framed statistic, can sway opinion in a relatively naïve sample, at least in the short term

- Why does this matter? Politicians, the media, and marketers all utilize this tactic all the time to sway public opinion.
THANK YOU!

Any questions or comments?

REFERENCES


Coastal Wetlands Landcover of New Orleans
An informed classification
Andrew Meinhold

Introduction to the Issue

“Without wetland restoration, Louisiana will likely lose another 4,548 km² of wetland and other coastal land over the next 50 years” (Barbier et al).

In recent decades, the preservation of wetland area has become of key interests to both public consciousness and researchers. This interest is likely related to the relatively newfound understanding of the benefits these features can provide to surrounding ecosystems, both human and natural. These benefits include, but are by no means limited to factors such as storm surge reduction and acting as a so-called sink for carbon emissions.

The following study has been conducted in order to evaluate the ongoing trend involving coastal wetland spatial area in a key location. Accomplished by use of satellite imagery, the conclusion of this study has been informed by peer reviewed literature relating the relative benefits of wetlands upon other nearby systems.
Study Area

This graphic (left), acquired through Google Earth, illustrates the site selected for this study. The larger red box denotes the area methodology was applied to, while the inset yellow box denotes the location of the metropolitan center of New Orleans, LA. This area was chosen due to its status as a relatively large population center that is commonly understood to be surrounded by one of the major locations of coastal wetlands throughout the contiguous United States. Being that this study's intended focus is on coastal wetland destruction or growth, it is of a key interest in this research. The imagery used in this study was acquired based upon the spatial location of the city of New Orleans at approximate longitude, latitude coordinates 30°27'28.31"N, 90°33'15.26"W. If any expanse of wetland can be said to have an effect upon the city (through any means), those sites directly to the nearby southwest of the city should logically be included.

Data

Data was acquired from the USGS through the Earth Explorer engine on March 12, 2015. The imagery was sensed by LANDSAT platforms 4/5 and 8; and is designated by the coordinates path 22, row 39. Sensors employed include the Thematic Mapper (TM) and Operation Land Imager (OLI), respective to the platform used. The resolutions of this data are as follows:

- Spatial- 30 m.
- Radiometric- 32 bit
- Spectral- bands in the visual and near-infrared (NIR) spectrums were applied. These bands exist between the wavelengths .45-.90 μm.
- Temporal- the period between images is 11 years, beginning in 2003, the year before the national tragedy of Hurricane Katrina, and ending in 2014. Both images were sensed in mid-July, this was done with the intention of studying coastal wetlands in periods of relatively large growth.

Following acquisition, the data was then entered into the file format PCIDSK (.pix). This format is the preferred form of data to be used in PCI Geomatica, the remote sensing software applied in this research.
Methods

Raster calculations were performed to visualize the NDVI and NDWI indices. These indices were applied to the 2014 imagery to allow for greater understanding of the recent expanse of this cover class.

- **Normalized Difference of Water Index (NDWI)**
  - The NDWI index employs the Green and near-infrared (NIR) bands to produce a visualization that focuses upon the delineation of water from other land cover features. The rationale for employing this calculation was to more accurately express the spatial expanse of wetland land cover (typically made up of vegetation surrounded by water. The equation for finding this index is as follows: \((\text{Green} - \text{NIR})/ (\text{Green} + \text{NIR})\).

- **Normalized Difference of Vegetation Index (NDVI)**
  - The NDVI index compares the spectral reflectance of imagery in the near-infrared and red bands. It is useful in understanding the relative photosynthesizing activity of vegetation within the pixels of the raster. The equation for finding this index is as follows: \((\text{NIR} - \text{Red})/ (\text{NIR} + \text{Red})\).

Methods, cont.

In addition, an unsupervised classification was run based upon the multiple spectral reflectance of the imagery.

- An unsupervised method was decided upon due to lack of first hand knowledge of ground truth land cover class within the study area. Additionally review of related academic literature recommended these methods over their supervised counterparts (Ozesmi and Bauer).
  - The classification was formed via K-mean method with: maximum classifications at 25, maximum iterations at 16, a maximum threshold of 0.01, and a maximum sample size of 262144.
  - A clip of the imagery was attempted with the intention of aiding in classification. This however only proved successful on the 2014 imagery, there was an error of unknown cause that prevented the use of this tool in the 2003 image.
Results, NDWI

The NDWI index accurately defines the separation of expanses of water from other cover classes. The lighter tones include classes such as vegetation and other land types, while the darker tones denote water. Further, the application of the NDWI index allowed for the defining of a key study area within the satellite imagery. This key area is noted by the cropping of the image on the right from the full imagery (left).

Results, NDVI

The NDVI index visualizes the relative photosynthesizing activity of vegetation Expressed through gray scale tones. The lighter a tone applied to vegetation is the, the more active it can be said to be. As one can see in the images, the large expanse of wetland in the Southeastern portion possesses a higher degree of activity than that the other vegetation seen throughout the rest of the image. As with the NDWI index, the image on the right has been cropped from the full image (left).
Results, Classifications 2003

This image portrays the results of the previously noted classification scheme for the 2003 imagery. While multiple classes were successfully generated, only one was extracted and remains visual in this imagery. This class was identified as wetland area based upon visual analysis in false color NIR color scheme. The “false color” refers to interaction with the spectrums of light expressed by the computer as blue, green and red imagery bands. Near infrared light, NIR, was assigned to the red band, while visual red and green were assigned to the green and blue bands, respectfully. It must be noted that some errors occurred as with any classification scheme, note the obvious water area that was identified as the wetland class. When this image is visually compared against the 2014 imagery (see following slide) one can see a variation in the concentration and distribution of the pixels falling within this cover class. To better inform this occurrence of change a pixel count has been provided on the results slide for the 2014 imagery.

Results, Classifications 2014

This image is the result of the previously noted classification scheme applied to the 2014 image. As stated on the previous slide a change in the distribution and density of the wetland cover class can be seen. Additionally, a pixel count of this class in both images was applied to provide for more in-depth understanding of this change. The 2003 image possesses a count of 4269152 pixels, while the 2014 image possesses a count of 2454226. The resulting difference from these counts is 1814926 pixels. These change between the two study periods may have resulted from errors within the classification scheme itself or in the application of differing satellite platforms; however, in this researchers opinion a difference of this magnitude cannot be wholly due to errors.
Conclusions

- The methods applied to the satellite imagery of the area immediately surrounding New Orleans, Louisiana reveal a trend of diminishing coastal wetland landcover.
- While perhaps not as large as indicated by the difference of pixel count, which may have been exaggerated due to error, this trend remains.
- Implications of this trend include but are not limited to factors such as:
  - The capabilities of coastal wetlands as natural breaks for storm surges.
    - In 2010, study conducted by Gedan et al. found that, “there are several lines of evidence that suggest that coastal wetlands do reduce inundation from storms in many instances,” provided the proper circumstances, related to spatial location and vegetation content.
  - The ability of these wetlands to act as a natural carbon sink, in relation to CO₂ and other greenhouse emissions.
    - A study published in 2001 found that over long temporal periods (such as 100 and 500 years) wetlands act as a natural carbon sink. This large reduction of atmospheric greenhouse gasses offsets the natural emission of methane (CH₄) that occurs in many wetland areas (Whiting and Chanton).

References


Are We Losing It? What Constitutes Ethical Behavior?

Barba Aldis Patton
Courtney Kulcak
Teresa LeSage Clements
Moira Baldwin
University of Houston-Victoria
What is integrity? Is it defined? Is it just a group of words? Is it a feeling? Is it your grandmother’s voice asking you if that is what you should really be doing? Dictionary.com states, integrity is the “adherence to moral and ethical principles”. Therefore it seems all those questions are really part of what is integrity. The underpinnings of success, in all endeavors, are founded upon the central principles of integrity.

In academic settings, integrity is a vital component towards success and growth in the classroom; honesty is the blueprint of good academic work. Academic integrity involves researching, comprehending, and building upon other’s work while distinguishing the contribution of others in your own intellectual composition. Academic integrity prepares students for personal and professional challenges while also imparting a framework for future accomplishment and gratification.

Studies have shown the increase of academic dishonesty over the years. As time progresses and students go from elementary, to middle school, and then high school cheating increases. Finn and Frone (2004) found about 33% of the students in primary grades admitted to cheating at least once. 60% of middle school students acknowledged cheating, 74% students in high school revealed they had cheated, and 78% of college undergraduates admitted cheating. These figures indicated that age seems to be a factor in the academic integrity. Teachers should have academic integrity as a vital part of the classroom management in all grade levels. However, just being aware of cheating and academic dishonesty in the classroom is not enough; teachers should and should be able to take action. However this is not the case in many situations. Some believe a teacher should teach the students important morals in their academics however, others say it is violating the rights of the family.

Integrity is not just with the lower less capable or ones not willing to do the work, it is appearing in all social groups and in all academic groups. Geddes (2011) found many high achieving very capable students are resorting to cheating as they feel stress and anxiety over the overload of work, plus the pressure of the expectations from parents and peers.

Integrity is an expectation in all personal and professional endeavors. It is the backbone of personal, business, social and academic relationship. Academic integrity prepares students for personal and professional confrontations in life, and where moral practices promote the reduction of academic dishonesty through the support of developmental learning skills and role-modeling. If appropriate honesty policies are in place, students will have something to reference even if being bullied. They can always refer to that policy. As it is believed many students either receive or give answers (a form of cheating) due to pressure from peers. There is definitely a need for more, academic support and guidance as it is hope that this will give students a better understanding of expectations that lead to an overall success and educational attainment. For all intents and purposes, honesty is the foundation for academic integrity.

The authors have only mentioned a few of their findings in the research on integrity. Additional information to help one understand the influences which are part of the everyday education of students are a large part of the research. Research revealed some good and some just plain scary things about the integrity we have in the students...
of today. We, the authors, plan to include more in a full paper on this topic as we are able to do additional research.

References:


Taking Vocabulary in the Classroom to a Higher Level: Not a Simple Task

Barba Aldis Patton
Teresa LeSage Clements
Moria Baldwin
University of Houston-Victoria
Vocabulary is one of the greatest challenges facing the classroom teacher of today. This is not a new challenge as it is one which teachers have tried through the years to provide techniques to benefit their students. Teachers must be able to guide his/her students to have the knowledge and power of words in order for that student to be able to be successful in today’s world. Guiding students to master words specific to a discipline such as math is not as simple as just memorizing. Each discipline has its own unique language and teachers, parents and students must be able to relate in that world in order to communicate and work together.

As we are moving from the old one room school houses to the modern and technological age, some things never seem to keep up with the times or go with the flow. The teaching of vocabulary is just one of those things which has been slow to move forward. Maybe a few decades ago, words were thought to only have a single meaning, but today it is not the case. Words have multi-definitions. The word ‘long’ can and does have relation to the length of some object however; it is also the name of a tractor used on the farm. There are also many slang words used to mean the opposite of its true meaning but these will not be included in our discussion. Students do not master vocabulary by just memorizing a simple definition for a word. (Braselton, & Decker, 1994; Lucas & Goerss, 2007). Memorization of word definitions might have worked when things were simpler, but today words must be put be in context. Students who are working with a second language, have a low economic background (lack of experiences) are faced with these challenges each and every day. Although students have been expected to learn to use context to gain meanings, many students are not able to do this task due to their life experiences/environment. Some educators see this as a lack of experiences, while others advocate it as being a cognitive development. (Trowbridge. S., personal communication. June 1, 2016). The fact that the student can’t detect meaning from context for whatever reason faces challenges which are even greater than their peers who are able to use context clues. (Patton, 2015)

Vocabulary is not something for tomorrow or a thing of the past. It is for now and if we as educator strive for the education of the future generations we must be open to what the research is trying to convey. In future works, researchers and I need to address specific activities to provide guides to help new educators. These activities will need to be in the formats of ‘good’ lessons where the new educator has everything at his/her fingertips. The activities will need to also include evaluation and assessment components as there will be no one in doubt if the action was successful or not. We can’t leave this important aspect of education to chance.

References:
Bellingham Coal Trains and the Gateway Pacific Terminal

Matthew Prpich
Central Washington University
There is a very contentious political issue happening right now in Western Washington over the proposed Gateway Pacific Terminal. Essentially those that live in Western Washington, particularly in the city of Bellingham, are concerned over the potential environmental and economic impacts that would come with the project. SSA Marine and BNSF, a shipping and cargo train company respectively, have proposed building a shipping terminal at Cherry Point just outside the city of Bellingham. Over the decades there has been a desire for a large shipping terminal off the coast of Washington State to shorten the time it takes to transport raw materials to East Asia, but those plans are only now coming to fruition. Right now in order to ship raw materials from states like Wyoming and Montana it needs to be transported to either a boat along the Mississippi River or to the Great Lakes, only then to be transported the long way to Asia via the Atlantic Ocean. The Gateway Pacific Terminal is a solution to this problem and will potentially provide new jobs for the locals in Western Washington.

However, many of the locals have raised a number of issues with the terminal. One of these is the increase in train traffic that is an environmental and health risk for the community. Even though the Gateway Pacific Terminal hasn’t even begun construction, Bellingham is already seeing the effect of coal trains on the city. Coal is being shipped to Asia today, although in much smaller amounts than what is being proposed. When coal is transported by train they are shipped in open air rail cars. This causes everything that is along the rail line to be coated in a fine film of coal particles. Primarily being a tourist town for outdoor activities, the influx of coal being blown all over the city would have negative impacts on the economy of Bellingham (Connelly).

The terminal would also increase the amount of trains going through Bellingham by 18 a day. Each train contains roughly 150 rail cars. The amount of coal blowing off the top of the trains is not the only issue however. The rail road travels along the Bellingham Waterfront which blocks access to the Puget Sound every time a train passes (Winters). The trains occasionally have to be parked for extended periods of time as they offload their cargo onto the terminal which will increase wait times. Concerns over this aspect of the rail line include loss of tourism, general nuisance to the town, and potential blocked access to emergencies along the waterfront (Stark).

Similarly with the open air rail cars, there is concern over coal being stored along the beach as well. Coal is simply stored in the open air along the terminal until an empty ship arrives to pick it up. This again raises the issue of blow off from the Puget Sound wind coating the whole city of Bellingham, and again negatively effecting the economy of the city (Simmons).

All of these issues raised have cause this proposed terminal to be stalled and scrutinized by elected officials. The Washington State government is now assessing if the terminal is ‘green’ enough that it won’t negatively impact the environment. It’s very interesting to see that SSA Marine and BNSF choose one of the most environmentally conscious cities in Washington to build a coal terminal.
References


HEALTH IS...

...a dynamic state of complete physical, mental, spiritual, and social well-being and not merely the absence of disease or infirmity.*

Public health is “What we as a society do collectively to assure the conditions in which people can be healthy.”**

Source: *WHO, 1998; **IOM, 1988
A BROADER UNDERSTANDING

If we look at the definition of health, we see that it encompasses a broad range of conditions.

Health requires
• physical,
• mental,
• spiritual, and
• social well-being.

Ensuring conditions so that people can be healthy is the job of public health. And in order to ensure physical, mental, spiritual, and social well-being, public health requires that society work together, collectively.

A SHARED VISION:
HEALTHY PEOPLE IN HEALTHY COMMUNITIES

CDC Mission:
• Promote Physical and Mental Health
• Prevent Disease, Injury, and Disability
USA: Threats, Responses & Lessons

In recent years, a series of different public health threats emphasized the context of public health in the US. These events required responses from more than one geographic area and more than one agency.

- **Hurricane Sandy**: hit the US in October 2012; was the largest Atlantic hurricane on record; approx. $71 Billion in damages; affected 24 states, but most severe damage in New Jersey and New York, with sea water flooding streets, tunnels, and subway lines.

- **Salmonella contamination of peanut butter**: in 2011, the US Food and Drug Administration (FDA), the CDC, and state and local public health officials investigated a multistate (20) outbreak of salmonella infections linked to peanut butter, of special concern because many children eat peanut butter. The collaborative work identified the origin and shut it down quickly. (Source: FDA)

- **H1N1 Epidemic**: the H1N1 flu virus caused a worldwide pandemic in 2009 as a new strain of swine origin. It caused about 17,000 deaths by the start of 2010.

In the interest of time, let’s talk about only the last two in a little more detail

- **Hurricane Katrina in 2005**
- **9/11 attacks on the US in 2001**

Reformed Chinese and American Systems

Around 2002, the Chinese government replaced the Health and Epidemic Prevention Stations of the old Soviet model (1953) with Centers for Disease Control and Prevention at the national and local levels. The new mission is to prevent disease, disability and injury and, create a healthy environment, maintain social stability, and promote people’s health through research and professional development.
NEW STRUCTURE FOR DISEASE PREVENTION AND CONTROL IN CHINA

IN SEARCH OF SOLUTIONS

Since 2003, China's newly established Centers for Disease Control deal with SARS, avian flu, earthquake and other public health emergencies and disasters, to protect people's health. Current world is in a relatively peaceful environment, but rapid socio-economic development, globalization, democratization, market, legalization present a range of new challenges in China. The people now expect a higher quality of life that is equated with good health which creates new kinds of problem in terms of general well being. One of the most urgent is responsiveness: China’s Centers for Disease Control and Prevention must be adapted to deal with these problems. The purpose of this project is to discover in American practice ways to develop more efficient agencies that can deal effectively with the globalization.
FIRST PROBLEM: UNDERSTANDING US FEDERALISM

How does it work?

What functions are performed where?

START AT THE BOTTOM: THE PUBLIC HEALTH DEPARTMENT OF KITTITAS COUNTY

What do County Health Departments do in the USA?

- Monitor the health status of residents to identify community health problems.
- Diagnose and investigate health problems and hazards in the community.
- Inform, educate, and empower people about health issues.
- Mobilize community partnerships to identify and solve health problems.
- Develop policies and plans that support individual and community health efforts.
- Enforce laws and plans that support individual and community health efforts.
- Linking people to needed personal health services and assuring the provision of health care when otherwise not available.
- Assure a competent public health and personal health care workforce.
- Evaluate effectiveness, accessibility, and quality of personal and population-based health services.
- Research new insights and innovative solutions to health problems.
COUNTING IN FEDERAL SYSTEMS?: THE NUMBERS DON'T MATCH!

<table>
<thead>
<tr>
<th>Local health departments</th>
<th>China</th>
<th>US</th>
</tr>
</thead>
<tbody>
<tr>
<td>Municipal/county level</td>
<td>33965 (18,638)</td>
<td>2800</td>
</tr>
<tr>
<td>Countryside</td>
<td>37015 (36,593)</td>
<td>0</td>
</tr>
<tr>
<td>Village</td>
<td>648619</td>
<td>0</td>
</tr>
<tr>
<td>Clinic and infirmary</td>
<td>184050</td>
<td>0</td>
</tr>
<tr>
<td><strong>total</strong></td>
<td>903649</td>
<td>2800</td>
</tr>
</tbody>
</table>

Looking at the list of functions it is clear that the county health department is a hub in the overall system, but there seem to be no numbers to tell us how it’s done.

PRELIMINARY OBSERVATIONS

In 2007, Chinese government set the goal of providing basic health care services on a roughly equal basis and maintaining that equality over time. Because of the gap between the level of urban services and those of rural areas, China concentrated initial efforts in the countryside, but it has become clear that the sheer number of facilities is not solving the problem. Since the problem seems to have been mitigated if not eliminated in the US, this ongoing study will seek to discover how health care is delivered in rural areas and what the role of the County Health Department in the overall operation of the delivery system.
WHAT WE’VE LEARNED AND WHAT WE

In contrast the United States, China’s public health system seems enormous and it is inefficient. Since 2008 the Chinese government has been trying to develop a system of multilevel-integrated agencies. That is to say, several agencies which have the same function and business scope are being integrated under unified management usually by a new department, but this focus on cross-government functions and policies from different departments does not seem to be reducing inefficiency, bureaucracy, and bull management. Therefore, China’s is looking to the collaborative American model of public health delivery for lessons that can improve administrative efficiency and reduce administrative costs.

CONCLUSION

Over the course of the year long study the objective is to draw lessons and develop “single local health department” model for China that can achieve the complementary of resources and reduce buck-passing and miscommunication between departments.
Thank you!
Application and Implementation of Authentic Assessment

Clinton Rau
Beverly A. Doyle
Creighton University
Abstract

This paper will focus on how authentic assessment is a driving force in the Boys Town model of care. Authentic assessment provides the skeleton for programs that are designed to enhance the academic and social skills of youth who are residents at Boys Town. These programs that evolve from assessment result in some of the best outcomes for at-risk youth.

Authentic Assessment

One of the primary reasons that students’ standardized test scores continue to be the most significant factor in assessment of a school’s success is that most educators, parents and legislators do not really understand that it provides a misleading estimate of a school staff’s effectiveness (Popham, James, W. 1999).

Standardized tests are aptitude tests designed to predict how well a student will do in certain academic areas. These tests however are only one piece in the academic puzzle. Students need skills to take to the next level, and schools need to prepare students for the next level, no matter if that next level is getting a job, moving on to high school, college or moving into a specific career field.

The Boys Town model uses both; traditional assessment in the form of standardized testing as well as authentic assessment to improve student outcomes. Regardless of the target skill or behavior domain, a critical feature of such approaches to service delivery is the implementation of an effective universal program that promotes the development of the key skill/behavior(s) of interest (DiPerna, James Clyde 2015).

Boys Town runs an elementary and a secondary school on campus attended by all residents. Both schools are accredited and offer broad academic and vocational classes. The high school is structured around a seven-period day without study halls. Academics, social skills, and employability skills are highlighted, with students offered vocational training in over a dozen career areas. All youth receive an academic evaluation when they enter Boys Town to help assess their current educational level and learning needs. Academic testing includes math, reading, spelling, language, and writing.

In addition, authentic assessment is a cornerstone of the Boys Town social skills curriculum. After evaluating the social skills demonstrated by students, a social skills program is designed. Instructional strategies grounded in behavioral theory proceeds this initial authentic assessment. Reinforcement, modeling, role-playing and structured problem solving are methods utilized to teach social skills based on data gathered in the authentic assessment (DiPerna, James Clyde 2015). Studies have shown that frequent reinforcement of positive behaviors by classroom teachers typically increases students’ rates of on task behavior (Sutherland, Kevin S. 2000).

Boys Town believes teaching social skills is just as important as teaching academic skills. Real life authentic assessment usually comes in the form of social interaction. The best interactions for learning can be the ones where the outcome may be unpleasant. For example, a student plagiarizing a paper and getting a D in a class is part of learning. It is part of learning how to be independent, and part of learning the consequences of not doing your job well (Daly, Daniel L. 1992). However, as part of the
reinforcement focus, behaviors which the student demonstrates, and are appropriate are also highlighted.

The Boys Town system has students take an active role in their development of both academic and social skills. Teachers actively train youth to use prosocial alternative social skills to replace deviant or ineffective social skills that have created problems for them. They train these skills throughout the day during naturally occurring interactions. Teachers meet with each youth each day to review relevant behaviors that have occurred during the day to determine whether they have made adequate progress to earn their privileges (Larzeler, Robert E. 2004). Students have targeted academic and social skills goals (Table 1). These goals are based on authentic assessments, and academic assessments. The staff at Boys Town then teach to these specific goals and the youth document them on school cards, and home point cards (Table 2). Each interaction is coded for data processing and documentation of achieving specific objectives.

Students evaluate their own performance on whether or not they feel they have achieved their goals for the day on their Daily Skill Review (Table 1). Students who actively participate in reviewing and assessing themselves on their goals are eighty-seven percent more likely to achieve those goals (Larzeler, Robert E. 2004). Regardless as to whether or not they take the process seriously or not, they are actively participating in the authentic assessment process. Table 2 is an example of a card that would go home with a student, which would be a continuation of the goals set forth in the daily skill review completed at school.

Boys Town serves over 23,000 youth each year. Most of the youth have been in at least two foster homes and are in trouble with the court system by the time they arrive. The base graduation rate for youth in foster care is forty-four percent (Daly, Daniel L. 2010). The Boys Town education system graduates eight-five percent of their youth from high school (Daly, Daniel L. 2010), and ninety-one percent of youth receive their high school diploma or higher education five years after leaving Boys Town (Hensley, Michele 2005). Long-term follow-up studies of Boys Town’s program have found it to be more effective than a comparison group on a range of outcomes such as independent living, academics, less restrictive placement, and a lower rate of repeated criminal behavior (Larzaler, Robert E. 2004).

Although standardized and high stakes tests have become the norm in America’s schools, they do not provide the specific information needed to succeed in life. Through the use of authentic assessment, Boys Town’s blended teaching of academic and social skills enable a student to focus on life skills such as task completion, following instructions and accepting feedback as part of their overall academic program.
References
Table 2

<table>
<thead>
<tr>
<th>Positive Points</th>
<th>Curriculum Skills/Objectives</th>
<th>Specific Behavior</th>
<th>Negative Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>7/10</td>
<td>Following Instructions</td>
<td>full out guest card</td>
<td>0/0</td>
</tr>
<tr>
<td>7/10</td>
<td>Accepting Feedback</td>
<td>eye contact</td>
<td>0/0</td>
</tr>
<tr>
<td>7/10</td>
<td>Responsibility</td>
<td>set table</td>
<td>0/0</td>
</tr>
<tr>
<td>7/10</td>
<td>Honesty</td>
<td>take out trash</td>
<td>0/0</td>
</tr>
<tr>
<td>1/10</td>
<td>ignore negativity</td>
<td>ignore peers</td>
<td>0/0</td>
</tr>
<tr>
<td>1/10</td>
<td>Showing Respect</td>
<td>voice tone</td>
<td>0/0</td>
</tr>
<tr>
<td>1/10</td>
<td>Accept Feedback</td>
<td>argue</td>
<td>0/0</td>
</tr>
<tr>
<td>1/10</td>
<td>Accept consequence</td>
<td>said okay</td>
<td>0/0</td>
</tr>
<tr>
<td>1/10</td>
<td>Following Instructions</td>
<td>do task</td>
<td>0/0</td>
</tr>
<tr>
<td>1/10</td>
<td>Disagree Appropriately</td>
<td>rational</td>
<td>0/0</td>
</tr>
<tr>
<td>2/10</td>
<td>Time Management</td>
<td>school/late for class</td>
<td>0/0</td>
</tr>
<tr>
<td>2/10</td>
<td>Accept Feedback</td>
<td>school/arrogant with teacher</td>
<td>0/0</td>
</tr>
<tr>
<td>2/10</td>
<td>Accept feedback</td>
<td>school/earn P.C.</td>
<td>0/0</td>
</tr>
<tr>
<td>2/10</td>
<td>Time Management</td>
<td>school/earn P.C.</td>
<td>0/0</td>
</tr>
</tbody>
</table>

Total Positive Points: 11.00

<table>
<thead>
<tr>
<th>Pos. Points</th>
<th>Curriculum Skills/Objective</th>
<th>Specific Behavior</th>
<th>Negative Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>2/10</td>
<td>Completing assignments</td>
<td>school</td>
<td>0/0</td>
</tr>
<tr>
<td>2/10</td>
<td>Time Management</td>
<td>school</td>
<td>0/0</td>
</tr>
<tr>
<td>2/10</td>
<td>Shaping on task</td>
<td>school</td>
<td>0/0</td>
</tr>
<tr>
<td>2/10</td>
<td>Following instructions</td>
<td>school</td>
<td>0/0</td>
</tr>
<tr>
<td>2/10</td>
<td>Participating in class</td>
<td>school</td>
<td>0/0</td>
</tr>
<tr>
<td>2/10</td>
<td>Extra Help</td>
<td>help peers</td>
<td>0/0</td>
</tr>
</tbody>
</table>

TOTAL POSITIVES (This Side): 10.00

TOTAL NEGATIVES (This Side): 0/0

TOTAL MADE: 10.00

TOTAL LOST: 0/0

POINT DIFFERENCE THIS CARD: 10.00

Notes: use goal: 12.00
Understanding How Three Key Events Impacted the Presidential Legacy of Franklin Pierce

Darrial Reynolds
South Texas College
Introduction

This paper discusses the three key events that impacted the presidential legacy of Franklin Pierce who became the 14th president on March 4, 1853 after winning the presidential election of 1852 for the Democrat Party. First, this paper takes a closer look at the Gadsden Purchase of 1853 and explains how the Gadsden Purchase of 1853 impacted the presidential legacy of Franklin Pierce. Second, this paper outlines the Kansas-Nebraska Act of 1854 and explains how the Kansas-Nebraska Act of 1854 impacted the presidential legacy of Franklin Pierce. Third, this paper recalls the main business at the National Democratic Party Convention of 1856 and focuses on why the 296 voting convention delegates did not nominate President Franklin Pierce as their presidential candidate. Lastly, this paper concludes with an analysis of how the Gadsden Purchase of 1853, the Kansas-Nebraska Act of 1854, and the National Democratic Party Convention of 1856 impacted the presidential legacy of Franklin Pierce.

Gadsden Purchase of 1853

President Franklin Pierce sent United States Diplomat James Gadsden to Mexico to negotiate a treaty for a southwest land purchase from Mexico. On December 30, 1853, the Gadsden Purchase Treaty was signed for land that cost the United States Federal Government $10,000,000 and that now makes up parts of New Mexico and Arizona. On April 25, 1854, the United States Senate ratified the Gadsden Purchase Treaty to give the United States the land needed to establish a southern railroad route from New Orleans to California (Gara, 1991).

Purpose of the Gadsden Purchase of 1853

According to the article, Gadsden Purchase, 1853–1854 (2009), land was added to the United States by the Gadsden Purchase of 1853 in order to establish a permanent boundary in Arizona and New Mexico between the United States and Mexico. President Franklin Pierce negotiated the Gadsden Purchase (1853) with Mexico for the present southernmost parts of Arizona and New Mexico because the land in question was strategic for the construction of a transcontinental railroad by the southern route from New Orleans to California. The Gadsden Purchase of 1853 included land south of the Gila River in present day New Mexico and Arizona. This purchase was necessary to correct some misunderstandings in the Treaty of Guadalupe Hidalgo (1848) which ended the Mexican War.

According to the article, Gadsden Purchase, 1853–1854 (2009), the Treaty of Guadalupe Hidalgo (1848) stated that the United States Federal Government was supposed to capture the American Indians who crossed the border into Mexico and pay for the damages to the villages that they raided. Essentially, the United States Federal Government did not want to pay for the damages to the villages raided after many claims for damages to the villages raided were made by the Mexico Government. The Gadsden Purchase of 1853 stated that the United States could cancel the many claims for damages to the villages raided by American Indians.

According to the article, Gadsden Purchase, 1853–1854 (2009), the Treaty of Guadalupe Hidalgo (1848) stated that the United States – Mexican border would follow the Gila River. The United States wanted the border to be moved south to include the Mesilla Valley in order to provide land for a practical route for a southern railroad when it could be built. The Gadsden Purchase of 1853 added about 29,670 square miles of
additional land from the Gila River to the new boundaries of the present states of New Mexico and Arizona.

**Impact on Presidential Legacy of Pierce**

Since the negotiation of the Gadsden Purchase of 1853 was the work of President Franklin Pierce, he gets credit for (1) making the United States of America bigger by adding to the United States of America what is now the southernmost parts of Arizona and New Mexico, (2) providing a southern route through the lowest mountain passes in Arizona and New Mexico that made it easier for settlers to move west into California, and (3) providing for a southern route through Arizona and New Mexico for the construction of a transcontinental railroad route from New Orleans to California.

**Kansas-Nebraska Act of 1854**

On January 23, 1854, Democrat Senator Stephen Douglas of Illinois introduced the Kansas-Nebraska Act to set up a government for the Nebraska Territory in order to establish a northern railroad route from Chicago to California that went through Nebraska and Kansas. The Nebraska Territory stretched from Texas north to Canada and from Missouri west to the Rockies. Essentially, Senator Stephen Douglas proposed that the Nebraska Territory be divided into two territories (Kansas and Nebraska) and that the settlers living in each territory be allowed to decide the issue of slavery by popular sovereignty. Congress passed the Kansas-Nebraska Act on May 30, 1854 and President Pierce signed the Kansas-Nebraska Act into law (Gara, 1991).

**Purpose of the Kansas-Nebraska Act of 1854**

According to the article, *Kansas-Nebraska Act of 1854* (1991), the Kansas-Nebraska Act of 1854 allowed Nebraska to become a territory and it allowed Congress to repeal the Missouri Compromise of 1820. The Kansas-Nebraska Act of 1854 repealed the Missouri Compromise of 1820 because it allowed the settlers living in each territory be allowed to decide the issue of slavery by popular sovereignty. The Missouri Compromise of 1820 stated that states north of the 36 degrees 30 minutes parallel would be free states.

According to the article, *Kansas-Nebraska Act of 1854* (1991), the Kansas-Nebraska Act of 1854 caused anti-slavery northerners from New England and pro-slavery southerners from Missouri to rush into Kansas to vote on the slavery issue. In 1855, Kansas held elections and choose a proslavery government seated in Lecompton, Kansas. Two key laws passed by the proslavery government were people could (1) be put to death for helping slaves escape and (2) get two years of hard labor for speaking out against slavery. Antislavery settlers refused to accept these laws so they elected their own antislavery government seated in Topeka, Kansas. Pierce recognized the proslavery government in Lecompton picked by fraudulent election practices and ordered the antislavery government in Topeka to disband.

According to the article, *Kansas-Nebraska Act of 1854* (1991), a local civil war was fought in Kansas in 1856 between the supporters of the antislavery government and the supporters of the proslavery government. A band of proslavery supporters raided the town of Lawrence, destroyed homes, and smashed the press of a Free Soil newspaper. A band of antislavery supporters then went into the town of Pottawatomie Creek in the middle of the night where they dragged five proslavery settlers from their beds and murdered them. Both sides continued to fight violently and fiercely by engaging in guerrilla warfare or hit and run tactics. By late 1856, more than 200 people had been
killed and the newspapers were calling the territory Bleeding Kansas. President Pierce sent troops to Kansas, but was not successful in maintaining order or in removing the Topeka government.

**Impact on Presidential Legacy of Pierce**

Since President Franklin Pierce signed the Kansas-Nebraska Act of 1854 into law, he gets credit for (1) providing for a northern route through Nebraska and Kansas for the construction of a transcontinental railroad route from Chicago to California, (2) bringing back the problems associated with western expansion of slavery issue, and (3) not being a strong enough President to maintain law and order in the Kansas Territory. President Franklin Pierce allowed a civil war in Kansas between the proslavery government and the antislavery government to exist for over a year before using military intervention. President Franklin Pierce was branded pro-Southern and he lost his Northern supporters because he supported the pro-slavery Kansas-Nebraska Act of 1854 that would eventually split the Democratic Party into northern and southern wings.

**National Democratic Party Convention of 1856**

The 1856 National Democratic Party Convention was the 7th National Democratic Party Convention and it was held from June 2, 1856 to June 6, 1856 in Cincinnati, Ohio. There were 296 party delegates from the 31 states at the National Democratic Party Convention of 1856 because each state was awarded the number of party delegates equal to its number of electoral votes in the Electoral College. The party delegates at the National Democratic Party Convention of 1856 adopted their party’s platform and nominated their party’s candidates for President and Vice-President. According to the article, *Democratic Party Platform of 1856* (2013), the National Democratic Party Platform of 1856 stated the following key positions.

- Democratic Party supports limited federal government, nationalism, and expansionism.
- Democratic Party supports the Kansas-Nebraska Act, supports the Kansas’ pro-slavery territorial legislature, and opposes the Topeka Constitution.
- Democratic Party supports popular sovereignty for settling the question of slavery in new territories.

**Nomination of a Candidate for President**

According to the article, *Democratic National Convention of 1856* (2013), the 296 delegates at the Democratic National Convention of 1856 selected a presidential candidate by voting for President Franklin Pierce of New Hampshire, Senator Stephen Douglas of Illinois, Senator Lewis Cass of Michigan, and James Buchanan of Pennsylvania. The rule of the convention was that a candidate had to receive a two-thirds majority (198 votes) of the 296 votes in order to win the party’s presidential nomination. On the 1st ballot, James Buchanan received 135½ votes, Franklin Pierce received 122½ votes, Stephen Douglas received 33 votes, and Lewis Cass received 5 votes. On the 2nd ballot, the Democrats picked John Breckinridge of Kentucky for their Vice-Presidential candidate.

According to the article, *Democratic National Convention of 1856* (2013), it was harder for the Democrats to pick a Presidential candidate because no Presidential
candidate received a majority (149) of the 296 votes until the 15th ballot when James Buchanan received 168½ votes, Stephen Douglas received 118½ votes, Lewis Cass received 4½ votes, Franklin Pierce received 3½ votes, and the State of Kentucky only used 11 of its 12 votes. On the 16th ballot, James Buchanan received 168 votes, Stephen Douglas received 122 votes, Lewis Cass received 6 votes, and Franklin Pierce received 0 votes. On the 17th ballot, James Buchanan received 296 votes, Stephen Douglas received 0 votes, Lewis Cass received 0 votes, and Franklin Pierce received 0 votes. The Democrats picked James Buchanan of Pennsylvania for their presidential nominee because he was the northerner who was willing to appease the southern slave-owners.

Impact on Presidential Legacy of Pierce

Since President Franklin Pierce was not nominated to be the candidate for president by the Democratic Party in 1856, he gets credit for being the (1) second incumbent president to try and fail to win the nomination to be their party’s candidate for president and (2) only elected President to try and fail to win the nomination to be their party's candidate for president. The 296 voting delegates at the National Democratic Party Convention of 1856 nominated James Buchanan of Pennsylvania to be the Democratic Party’s candidate for president. It is a fact that President Pierce failed to win the nomination to be his party's candidate for president in 1856 because he lost support of the antislavery Democrats in the 16 northern free states for (1) signing the Kansas-Nebraska Act of 1854 and (2) supporting the proslavery government in Kansas.

Conclusion

It is a fact that the (1) Gadsden Purchase of 1853, (2) Kansas-Nebraska Act of 1854, and (3) National Democratic Party Convention of 1856 impacted the presidential legacy of Franklin Pierce. Since the negotiation of the Gadsden Purchase of 1853 was the work of President Franklin Pierce, he gets credit for (1) making the United States of America bigger by adding to the United States of America what is now the southernmost parts of Arizona and New Mexico, (2) providing a southern route through the lowest mountain passes in Arizona and New Mexico that made it easier for settlers to move west into California, and (3) providing for a southern route through Arizona and New Mexico for the construction of a transcontinental railroad route from New Orleans to California. Since President Franklin Pierce signed the Kansas-Nebraska Act of 1854 into law, he gets credit for (1) providing for a northern route through Nebraska and Kansas for the construction of a transcontinental railroad route from Chicago to California, (2) bringing back the problems associated with western expansion of slavery issue, and (3) not being a strong enough President to maintain law and order in the Kansas Territory. Since President Franklin Pierce was not nominated to be the candidate for president by the Democratic Party in 1856, he gets credit for being the (1) second incumbent president to try and fail to win the nomination to be their party's candidate for president and (2) only elected President to try and fail to win the nomination to be their party's candidate for president.
References
A Face Lift to Teaching Science Based on the Next Generation Science Standards: Case of an Instructional Unit on Biotechnology

Natalie Sabia
Comfort Ateh
Providence College
Abstract
This study analyzed the potential benefits of including a Biotechnology unit in a high school Biology course. It aimed at answering the question: How does a Biotechnology Unit that aligns to the Next Generation Science Standards (NGSS) impact student learning and student engagement? The data for the study was collected throughout a three-week unit on Biotechnology taught to ninth and tenth graders. The findings suggest that lessons on Biotechnology present opportunities to engage students in various practices defined in the NGSS resulting in increased student engagement and learning.

Background
The Next Generation Science Standards (NGSS) are a set of standards for grades K-12 and aligned to the Common Core State Standards (CCSS), (NRC, 2013). These standards identify eight science and engineering practices, seven crosscutting concepts, and four disciplinary core ideas (DCI) that form the three dimensions of the standards (NRC, 2012). (See Appendix A for a more detailed breakdown of each of the three dimensions). The NGSS are intended to provide an opportunity to improve science education and student achievement. They are thus designed to actively engage students in scientific and engineering practices and apply crosscutting concepts to strengthen students’ understanding of core ideas (NRC, 2013). This three-dimensional learning defined by the NGSS aims at mastery of performance expectations that make clear the intent of assessments (NRC, 2013). One of the major conceptual shifts in the NGSS is the new emphasis placed on science and engineering practices, which are integrated into each DCI. To achieve this integration, engineering design is emphasized equally with scientific inquiry in the classroom (NRC, 2013).

Introduction
Student teaching is a 12-week program that pre-service teachers (PSTs) must complete at a small liberal arts college in the North East region of the United States of American. The PSTs create units in collaboration with their cooperating teachers and college supervisors that they implement during student teaching. One of the units taught by the first author during student teaching was on biotechnology. The cooperating teacher had access to the labs for the unit online as a result of completing a professional development on biotechnology. The student teacher thus had access to all of the lab equipment from the biotechnology program in charge of the professional development, which facilitated teaching and collection of data for this study.

Participants
The study involved two Biology classes: an Honors Biology class and a regular Biology class. The participants in the Honors Biology class consisted of four boys and 10 girls; and 12 freshman and two sophomores. Two of the students (one boy and a girl) had 504 Plans. The participants in the regular Biology class consisted of 19 students (10 boys and nine girls). Only one student in the class had a 504 Plan. All 19 students were sophomores. Students worked in groups of three to four. Although the cooperating teacher and another biology teacher were always present in the class
during the biotechnology unit, the PST was the lead teacher in the room, giving instructions on what students should do.

The unit took a total of 13 days to teach for each class. Class periods are 48 minutes long. Thus, the Biotechnology Unit required 624 minutes (10.4 hours) per class. The cooperating teacher and PST usually spent a full period each day to prepare any lab equipment, and the first author spent an average of two hours every night preparing for each lesson, for a total of 962 minutes (16.03 hours) of prep work per class.

Methodology

This study involved three stages. The first stage was to design a unit that aligned to the NGSS. The second stage was the actual implementation and teaching of the unit and collection of data during 13 days. The third and final stage was the analysis of the data.

Stage I: Design

All of the labs had already been designed but the first author was still responsible for creating scaffolding activities and a feasible learning progression to engage and motivate students in their learning as well as guide students through a sophisticated growth in their knowledge (See instructional sequence in Appendix B). The first author also created additional post-lab analysis questions to ensure effective assessment of student learning.

The unit design incorporated the following six science and engineering practices defined in a framework for K-12 science education (NRC, 2012): (1) Asking Questions and Defining Problems, (2) Developing and Using Models, (3) Planning/Carrying Out Investigations, (4) Analyzing/Interpreting Data, (5) Constructing Explanations and Designing Solutions, and (6) Obtaining Information. The ways in which students engaged in these practices were explored.

Stage II: Implementation

The biotechnology unit was taught over the course of 13 days and included a total of five labs. Three of the labs (Lab 1.1, Lab 1.2, and Lab 5A) were located online. Lab 1.1 was on developing skills for using micropipettes to measure small volumes of liquid, which is critical in science. Lab 1.2 was on gel electrophoresis and engaged students on running their own gel and analyzing the results to determine the number of dyes in each of the three solutions they were given. Lab 5A was a bacterial transformation lab, in which students manipulated \textit{E. coli} bacteria to take up a plasmid that contained a red fluorescent protein gene that had been isolated from a sea anemone. The unit also included two labs designed by biology teachers at the local high school where the study was conducted. One of the labs was a paper plasmid lab, in which students utilized paper models to simulate the process of creating a recombinant plasmid. The other lab, which was the final lab of the unit, engaged students in applying their knowledge on gel electrophoresis in analyzing the results of a crime scene gel electrophoresis to identify the crime suspect.

Students were engaged in six of the eight science and engineering practices. They \textit{asked questions} in each lab they completed, but especially for Lab 5A that involved
bacterial transformation. During the Pre-Lab overview, which was completed the day prior to conducting the actual lab, the entire procedure was reviewed with the students. Students were then required to identify the main goals of the lab, which led to them asking such as “How can we use biotechnology to make proteins to help treat diseases?” The procedure that students completed in Lab 5A is the same process, albeit on a smaller scale, that drug development companies use to make proteins (i.e. human insulin) for mass production. Students used models within the unit to help them understand the more molecular processes we were learning about—specifically, students used a paper plasmid model to simulate the formation of a recombinant plasmid. While students did not have the opportunity to plan any of the investigations themselves, they were able to carry out five total investigations over the course of those three weeks. After each investigation or experiment, students were given post-lab analysis and conclusion questions to respond to, which required them to analyze and interpret their data using concepts and vocabulary that we learned throughout the unit. For example, after the bacterial transformation lab, students had to examine their bacterial growth results after 48 hours of incubation, and then explain why they saw bacteria glowing either red or white, using the information they had learned throughout the lab. These analysis questions thus required students to construct explanations of their observations. Before students were able to analyze any data, they first needed to collect it; for each lab, students had visible results that they were able to either photograph or record. These labs allowed students to practice obtaining information and gathering data.

Throughout the unit, students had multiple opportunities for self-evaluation. The first lab of the unit taught students how to use a micropipette, which is a laboratory tool for measuring very small volumes of liquid. Being able to adjust the volume of the micropipette and then use the pipette to dispense liquid was a skill that was necessary for the rest of the labs for the unit. During this lab (Lab 1.1), students were given their own checklist of skills they needed to be able to demonstrate (see Appendix C). This allowed them to engage in metacognition, and self-evaluate their own micropipette skills. For Lab 1.2, students had to use the micropipettes to load wells in a gel, to prepare to conduct a gel electrophoresis experiment. A checklist was used to assess students’ ability to load the gels. Students were then able to get a grasp of what skills they had mastered, and which needed improvement.

On the last day of the unit, students were given a summative test, which included multiple choice and free response questions. On the test, students were required to analyze the results of a paternity test, and explain certain results of a bacterial transformation, among other tasks. The test required students to synthesize material they had learned from the entire unit and analyze results that I provided. The test was adapted from one that another biology teacher at the school has used in the past.

Stage III: Analysis

Student engagement and learning were analyzed to determine the impact of the biotechnology unit on students’ engagement in the science and engineering practices to enhancing their learning of science. To measure student learning, a t-test was conducted comparing each class’s cumulative unit test class average to the class average for the Biotechnology Unit Test. Student engagement was measured by
administering a narrative survey to the students at the end of the unit (Appendix D). The survey included seven guiding questions about the unit, and gave students the opportunity to answer freely. Students’ responses were coded and categories identified and later summarized into three main categories discussed in the Results section. Personal observations from the unit by the first author were also examined in triangulating the data on student engagement.

Results

Student Learning:
For the regular sophomore Biology class, the class average for the Unit Test was 73.08%. The cumulative class average for all unit tests was 66.98%. While the class average was certainly higher for the Biotechnology unit test compared to the cumulative class average for unit tests, the difference was not statistically significant (p>0.10). For the Honors Biology class, the class average for the unit test was 88.04% and the cumulative class average for unit tests was 82.876%. While the class average was certainly higher for the Biotechnology unit test compared to the cumulative class average for unit tests, the difference was not statistically significant (0.05<p<0.10). (See Appendix E). In summary, in both Biology classes there was an increase, albeit statistically insignificant, class average test scores resulting from a biotechnology unit that engaged student in multiple science and engineering practices.

Student Engagement:
Three main categories emerged from students’ responses to the narrative survey: (1) New equipment and hands-on procedures motivate students, (2) Students are motivated to pursue science as a career, and (3) Real-life applications make the science accessible to students. About 80% of students who responded to the survey rated the unit seven or higher, on a 10-point scale (10 being the highest rating possible). From personal observations, there was a definite increase in student engagement during biotechnology unit; students were very excited to use the new equipment and to participate in the hands-on labs. In the regular sophomore Biology class especially, students were much more willing to participate in the labs and in-class activities during the biotechnology unit. Over half of the students surveyed (55%) indicated that the biotechnology unit had motivated them to consider science as a major in college and a future career.

Limitations to the Study
One of the main limitations to the study is the lack of a control group. The two classes that were involved in the study were taught the exact same Biotechnology unit, with the exact same labs and instructions and tests. It would have been unethical to teach any of the classes using a unit that did not include the various labs with practices aligned to the NGSS considering the current literature on the NGSS and its essence in enhancing science education. There was thus little basis for comparison in student learning other than previous unit test class averages. Using class averages as a means of comparison was not entirely accurate either, as only the last two unit tests used in the analysis were administer during student teaching. All of the previous units had been
taught and tested by the cooperative teacher earlier in the year. The factor of the classroom teacher may have impacted student test scores. Furthermore, relying solely on student test scores to measure student learning does not paint a full picture, as students cannot be fully represented by just a test score.

Another limitation to the study is the PST’s personal teaching experience. The biotechnology unit was the second unit taught as a student teacher, suggesting minimal experience in creating and implementing effective scaffolding instructional and assessment strategies that could have impacted students’ engagement and learning in the biotechnology unit.

**Conclusion**

The NGSS are a new set of standards. As of August 2014, 12 states and the District of Columbia have adopted the NGSS since their completion in April 2013 (Heltin 2014). The entire adoption process has been very slow (Heltin 2014). Even though Rhode Island was the first state to adopt the NGSS, the public high school in which this student was conducted is currently in the midst of a three-year implementation plan, with most teachers still relying on the previous state standards, the Grade Span Expectations (GSEs). The positive results of this study will be useful to teachers, educators, and policy makers as an example of a successful implementation of science and engineering practices defined in the NGSS. Future studies on the NGSS in a biotechnology unit should focus on the integration of the three dimensions of the NGSS in engaging students in the lab activities that are the core of the biotechnology unit.

**References:**


### Appendix A. The three dimensions of the Next Generation Science Standards (NGSS)

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Categories/Classifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Science and Engineering Practices</td>
<td>Asking Questions and Defining Problems</td>
</tr>
<tr>
<td></td>
<td>Developing and Using Models</td>
</tr>
<tr>
<td></td>
<td>Planning and Carrying out Investigations</td>
</tr>
<tr>
<td></td>
<td>Analyzing and Interpreting Data</td>
</tr>
<tr>
<td></td>
<td>Using Mathematics and Computational Thinking</td>
</tr>
<tr>
<td></td>
<td>Construction Explanations and Designing Solutions</td>
</tr>
<tr>
<td></td>
<td>Engaging in Argument from Evidence</td>
</tr>
<tr>
<td>Crosscutting Concepts</td>
<td>Obtaining, Evaluating, and Communicating Information</td>
</tr>
<tr>
<td></td>
<td>Patterns</td>
</tr>
<tr>
<td></td>
<td>Cause and Effect</td>
</tr>
<tr>
<td></td>
<td>Scale, Proportion, and Quantity</td>
</tr>
<tr>
<td></td>
<td>Systems and System Models</td>
</tr>
<tr>
<td></td>
<td>Energy and Matter</td>
</tr>
<tr>
<td></td>
<td>Structure and Function</td>
</tr>
<tr>
<td></td>
<td>Stability and Change</td>
</tr>
<tr>
<td>Disciplinary Core Ideas</td>
<td>Physical Science</td>
</tr>
<tr>
<td></td>
<td>Life Science</td>
</tr>
<tr>
<td></td>
<td>Earth and Space Science</td>
</tr>
<tr>
<td></td>
<td>Engineering, Technology, and Applications of Science</td>
</tr>
</tbody>
</table>

### Appendix B. Unit Overview Chart

<table>
<thead>
<tr>
<th>Day</th>
<th>Labs or In-class Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Protein Jigsaw</td>
</tr>
<tr>
<td>2</td>
<td>Lab 1.1—Micropipette Lab</td>
</tr>
<tr>
<td>3</td>
<td>Pre-Lab for Lab 1.2—Gel Electrophoresis</td>
</tr>
<tr>
<td>4</td>
<td>Lab 1.2—Gel Electrophoresis</td>
</tr>
<tr>
<td>5</td>
<td>Lab 1.2 Post-Lab/Analysis</td>
</tr>
<tr>
<td>6</td>
<td>Lab 5A Pre-Lab—Bacterial Transformation</td>
</tr>
<tr>
<td>7</td>
<td>Lab 5A—Bacterial Transformation</td>
</tr>
<tr>
<td>8</td>
<td>Paper Plasmid Lab</td>
</tr>
<tr>
<td>9</td>
<td>Lab 5A Post-Lab/Analysis</td>
</tr>
<tr>
<td>10</td>
<td>The Case of the Missing Crown (Forensic Lab)</td>
</tr>
<tr>
<td>11</td>
<td>The Case of the Missing Crown Post-Lab/Analysis &amp; Biotechnology Unit Overview</td>
</tr>
<tr>
<td>12</td>
<td>Biotechnology Quiz</td>
</tr>
<tr>
<td>13</td>
<td>Biotechnology Unit Test</td>
</tr>
</tbody>
</table>
Appendix C. Checklist for Lab 1.1—How to Use a Micropipette

<table>
<thead>
<tr>
<th>Student Name</th>
<th>I can properly load and dispense RD using the micropipette.</th>
<th>I can properly aspirate RD (uptake exact amount from the well back into the micropipette)</th>
<th>I can properly adjust the micropipette volume.</th>
<th>I demonstrated proper aseptic technique during the lab. (I washed my hands, I did not touch the tips to my hands or the table, etc.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Appendix D. Post-Unit Survey Questions
1. Rate this unit on a scale of 1-10. (1=hated it, 10=loved it)
2. What was your favorite part of the unit and why?
3. What was your favorite lab and why?
4. Did the new equipment make you more or less interested in the material and why?
5. Did this unit make you more inclined to pursue a future career in this field, or in science in general?
6. Do you think that Biotechnology should be added to other schools’ curriculums?
7. Why do you think it is important to learn about Biotechnology?

Appendix E. t-test Results

<table>
<thead>
<tr>
<th>Class</th>
<th>Sample Size*</th>
<th>Cumulative Unit Test Class Average (%)</th>
<th>Biotechnology Unit Test Class Average (%)</th>
<th>Test Statistic (t)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Honors Biology</td>
<td>5</td>
<td>82.876</td>
<td>88.04</td>
<td>1.568</td>
<td>0.05&lt;p&lt;0.10</td>
</tr>
<tr>
<td>Regular Biology</td>
<td>5</td>
<td>66.98</td>
<td>73.03</td>
<td>1.151</td>
<td>p&gt;0.10</td>
</tr>
</tbody>
</table>

* Number of unit tests used to calculate cumulative unit test class average
Vietnam and the USA: Immigration Politics

Binh Vo
Central Washington University
“Vietnam was not so much a war as it was one long battle in an ongoing war. The war in defense of freedom, which is still under assault. This battle was lost not by those brave American and South Vietnamese troops but by political misjudgments and strategic failure....Ending a conflict is not so simple, not just calling it off and coming home. Because of the price for that kind of peace could be a thousand years of darkness for generation’s Vietnam borned” - Ronald Reagan

As the Cold War intensifying, the United States solidified its policies against the allies of the USSR. With the increasing Vietcong rebellion against South Vietnam, President Dwight D. Eisenhower had pledged his firm support to President Diem by 1955 with the hope that, South East Asia would not fall into the control of Communist regimes. In 1959, Vietcong, the guerrilla force that resided in the South and supported of North regime, had begun engaging South Vietnamese Army forces in major firefights. Under Kennedy administration, in an effort to minimize the aggression, the U.S military presence in Vietnam had reached 9,000 troops.

A coup by some of President Diem’s generals succeeded in toppling and murdering him and his brother, Ngo Dinh Nhu, in November 1963. To ensure the political instability in South Vietnam after the overthrow and Vietcong’s terrorization, President Kennedy’s success, Lyndon B. Johnson, and Robert McNamara, Secretary of Defense Robert McNamara increased further military and support to the Army Republic of Vietnam (ARVN). Immediately after the Gulf of Tonkin incident, Johnson ordered the bombing of military targets in North Vietnam. Also, Congress passed the Gulf of Tonkin Resolution, which gave the Executive branch full war-making powers.

In March 1965, Johnson’s decision to send U.S combat forces was approved by the majority in Congress. Three months later, there were 82,000 “boots on the ground”, and the additional 175,000 more were requested by General William Westmoreland to shore up the ARVN. Although on a much smaller scale, Australia, New Zealand, South Korea, and Thailand also sent troops to South Vietnam, the frontline of the free world.

At the end of 1967, Hanoi regime was impatient and sought to strike a decisive blow. Therefore, Tet, the most important celebration in Vietnamese culture, became a valuable opportunity for the invasion. Treading down the Tet’s peace contract and traditional values, North Vietnamese Army (NVA) with the collaboration of Vietcong (VC) launched the assault on January 31, 1968. More than 80,000 troops overwhelmed provincial capitals and five of the six autonomous cities. Taken completely by surprise, the ARVN and U.S forces managed to make knock-down strikes which drove out the aggressors. As the aftermath of the Tet Offensive, NVA and VC suffered heavy military loss.

As the election term of 1972 coming up, Nixon announced the program of withdrawing troops, increasing aerial bombardment, and handing over combat operations to South Vietnamese. In addition to those Nixon’s Vietnamization policies, he continued the peace talks in Paris, adding the top decision-making level secret discussion, conducted by Secretary of State Henry Kissinger beginning in 1968. To initiate the Vietnamization program without the political disagreement of South Vietnam, Nixon promised President Thieu that, the U.S would replace equipment on a one-by-
one basis and react effectively, if there is a violation of the accord. As we all know, nothing was true.

The United States, Republic of Vietnam, National Liberation Front (Vietcong), and the Democratic Republic of Vietnam signed the “An Agreement Ending the War and Restoring Peace in Vietnam” in Paris, January 27th, 1973. The Republic of Vietnam was unwilling to recognize the Viet Cong's Provisional Revolutionary Government, and it referred to the two-party version, which was signed by North Vietnam and the United States. The main reason was due to the belief that, Viet Cong was the extended hand of Hanoi, not the neutrally dissident political force. The main provisions stated that, the North and South agreed to the withdrawal of all troops from Laos and Cambodia and the restriction of military bases and movement through these sovereign states. Also, the demilitarized zone (DMZ) at 17th Parallel still remained as a dividing line. To enforce the agreement, the International Commission of Control and Supervision made up of Canadian, Indonesian, Pole, Filipino ... sent 1,160 inspectors to Vietnam. Nevertheless, history proved that the Paris Peace Accords had absolutely no practical effect on the civil war as it was flouted by the Democratic Republic of Vietnam.

"Therefore, I shall resign the Presidency effective at noon tomorrow. Vice President Ford will be sworn in as President at that hour in this office" (Nixon, 1974). Nixon resigned as he was under siege from the Watergate scandal. By the time Gerald Ford assumed the presidency in August of 1974, U.S. aid to South Vietnam has been cut by seventy five percent since its height a year earlier. For the ARVN, the cutback had the devastating effect. Planes sat idle on runway, unable to take off because of the lack of fuel. Artillery pieces, that once were allocated one hundred rounds per day, were rationed to only ten. While the ARVN supplies were running lower and lower each day as Congress choked off the flow, the North Vietnamese were rebuilding their military strength. On March 10th, 1975, just over two years after the Paris Peace Accord was signed, Hanoi’s devious face was revealed. The hope for the right to self-determination of the South Vietnamese People crumbled as the NVA launched their largest and most ambitious offensive yet into the South. As ARVN units began to falter, hundreds of thousands civilians ran for their lives. March 29th, 1975, Danang was under control of the Communist. After bloody fighting at Second Tactical Zone, the central highland region fell into the invasive force. April 21st, 1975, President Thieu resigned and four days later, NVA reached the outskirt of Saigon. A day before the Fall of Saigon, a small number of U.S State department, CIA workers, and Marines who remained in Vietnam began a hasty and desperate evacuation. 11:30 am, April 30th, 1975, a North Vietnamese tank crashed through the Presidential Palace’s gate which marked the end of Vietnam War. Nevertheless, the massive waves of refugees has begun.

The advancement of the NVA at the end of April, 1975 got the U.S. worried. April 18th, 1965, President Gerald Ford created the Interagency Task Force (IATF), which was responsible for transporting, processing, receiving and resettling Vietnamese refugees. Neighboring countries refused to accept war evacuees because of the fear they would reside in their soil permanently. As a result, evacuated Vietnamese would be granted temporary asylum on Guam. As a part of Operation New Life (April, 23rd – November, 1st, 1975), within the last few days of April, a massive number of 130,000 who were closely connected to the U.S. and would face immediate Communist revenge, were transported under chaos. The majority of the Vietnamese of this first wave were
from the educated elite. Twenty percent had university education, forty percent were Catholic, and thirty five percent spoke fluent English (Kelly, 1986, p. 138-149). In addition, Operation Babylift had brought 2,600 orphans to Guam on April 3rd and 4th. Approximately 110,000 evacuees resettled in the United States. The rest either resided in other countries such as France, the United Kingdom or chose to return to Vietnam and were sent to reeducation camp upon arrival. Under Communist’s bloody fist, the coming years would see an even larger refugees flow.

Under Communist rule, there were “reeducation camps”, “new economic zones”, “nationalized economic system”, and “property confiscation”. The new regime plundered the life, liberty and the wealth of South Vietnamese. About 165,000 South Vietnamese died in “reeducation camps” out of the 1-2.5 million prisoners (Jacqueline, 1990). Also, the new economic zones policy brought the additional 50,000 death toll and the hand of Hanoi contributed between 400,000 and 2 million more through political violence from 1975-87 (Rummel, 1997, 135). Under these circumstances, the largest wave of refugees started to pour out of Vietnam by boats to nearby countries or on foot through Cambodia to Thailand. Many of them failed to survive on the passage to freedom. The East Vietnam Sea became the massive grave of thousands since along the way, they faced the pursuit of Red evils, pirates, disease, storms, hunger, and thirst. According to United Nations High Commissioner of Refugees (2000), in 1981, 349 out of 452 boats arrived in Thailand, got attacked by pirates an average of three times each (p. 81 – 97). Also, the report stated that “578 women had been raped”, “228 women had been abducted”, and “881 people were dead or missing” (p. 87). To respond to the humanitarian crisis, South East Asia countries with the “free world” assistance set up numerous refugee camps along their shores. The two noticeable camps were Bidong, Malaysia and Galang, Indonesia. In the late 1980s, the outflow changed direction to Hong Kong and Thailand. While waiting for approval of resettlement in the United States and other countries, they were provided with English courses and cross-cultural training. The most important requirement for resettlement was the refugees had to prove that, they seek refuge because of political repression. In addition to the “boat people”, there were a small number of Amerasian cases. In 1987, the Amerasian Home Coming Act authorized the total 30,000 of children and their immediate family members to immigrate to the U.S. In comparison of all Vietnamese’s waves, those refugees are much less educated with little or no English. When interviewed, the majority were varied from farmers to fishermen. Nevertheless, for human beings, nothing is more valuable than freedom.

Clinton’s administration normalized the relationship with Vietnam. The third wave was initiated. From 1990 to 1994, the Humanitarian Program for Former Political Detainees was negotiated with Hanoi to give way to new life in the U.S for reeducation camp attendees. They were former ARVN officers or worked for the U.S during the war. To qualify for the program, a former military personnel must be an officer and imprisoned for not less than 4-year. More importantly, an agreement for the departure of a larger number of Amerasian children between the U.S. and Vietnam had been signed. It brought those who had been facing discrimination, poverty, and abuse, to a better future. However, the rise of black market for the custody of these children was alarming, since those “parents” could granted immigration to the U.S. The final immigration program between two countries was in November, 2005 which allowed additional
Vietnamese to immigrate as they could not with the 1994 program. To compare with the “Fall of Saigon” and “flight of the boat people”, this wave was as similar to the 1975, since it consisted of highly educated refugees as they were military officers or government elites.

As reported by U.S Census Bureau (2010), there are about one and a half Vietnamese in the U.S. They live in large metropolitan areas. After painful experiences, they utilize the core traditional values and work ethic to accomplish the American dream. Within a short period, these former refugees have enriched every sector of U.S. society. To name a few successful examples:

Nguyet Anh Duong was a Vietnamese American scientist, the inventor of Thermobaric weapon.

Mina Nguyen was appointed as Director of Public Relation of Labor Department.

Dinh Viet was appointed as the Deputy of US Justice Department in President Bush’s first term.

Nguyen Hung Viet contributed largely to the NASA Columbia space shuttle.

Joseph Cao was elected as the first New Orleans-based district Republican Representative since 1891.

Brigadier General Viet Luong served as Deputy Commander of the 1st Cavalry Division. Commander Hung Cao commanded the Naval Diving and Salvage Training Center.

The second and third generation of those “refugees” are highly educated and experienced in many fields and industries. In the near future, there will be much greater contributions to the society. Vietnamese Americans are grateful for the helping hand of the U.S., which they will dedicate their courage, determination, and achievement to prosper their benefactor.
References
An Analysis of the "Use It or Lose It"
Policy in Eastern Washington

Taylor Wilkinson
Central Washington University
The “use it or lose it” policy was designed to encourage continual beneficial use of water. Since water is considered a public resource, a water right can be revoked whenever a user fails to meet the beneficial use test. It was designed to solve the problem of poor allotment on the part of the user, and because the majority of uses for water in eastern Washington were originally for agricultural purposes, this has had a large impact on what is considered “beneficial”. Water is a scarce resource in the eastern part of Washington State and if it is not being used beneficially, or if only a portion of the water allotted in the right is used, it theoretically would be allotted to another user who would utilize the water more efficiently. This “use it or lose it” policy has had negative effects, both economically and ecologically. To avoid relinquishing water rights, rights holders will often waste water by using it in ways that are not “beneficial” in efforts to protect their allocations. “Relinquishment applies when you voluntarily fail, without sufficient cause, to use all or a portion of your water for five consecutive years. The portion of the right not used is subject to being lost (Pelly).” Fortunately, this problem can be mitigated by adopting market based solutions such as water markets, which would change the basis from “beneficial use” to “willingness to pay”. Policy alternatives examined will include (1) redefining “beneficial use”, (2) altering the time associated with the relinquishment statute, and (3) restructuring of water right allocation from prior appropriation to willingness-to-pay. There have been several attempts by the Washington State Legislature to redefine “beneficial use” to include in stream flows. This would allow rights holders the option for leaving all or a portion of their right in stream to increase the health of the ecosystem without wasting water out of fear of relinquishment. Another alternative examined was attempts by the legislature to increase the time associated with the relinquishment statute from 5 years, to 10 years. This would not address the root of the problem, but would extend the amount of time rights holders have to be able to find alternatives for their water without fear of relinquishment.

For a future study it would be beneficial to examine people’s perceptions of water markets in various communities within eastern Washington, and where water markets have had successes in the past. The public’s perception of water markets could shift based on location, which could then show areas that are the most beneficial to conduct education outreach projects at. Success of water markets in certain areas could provide insight for how to move forward with the promotion and usage of water markets in the future.

References
A Prosperous Hispanic Population Equates To a Robust America

Edgar Zamora
Central Washington University
Abstract

For the last decade, the American political, economic, and educational landscape has weathered a destructive storm. That period of time left a large amount of Americans battered, but those effected managed to make it through. As a new age dawns in the United States, so does a new challenge. The crisis is that American leaders are omitting the Hispanic population to the point that their influences on politics, economics and education are being overlooked. These actions toward the Hispanic population need to be rectified. The reason is that according to the U.S. Census, Hispanics will constitute about 30 percent of the entire population by 2050, making their influence greater as the years go by. There is less chance of Hispanic influence on politics, economy, and education being utilized correctly if this information is not realized. Thus, change through policies has to be made in politics, economics, and education to allow Hispanics to improve their status. These areas have to be split into sub-sections for evaluation. Politics will be addressed through voter turnout, local and national elections and the 2016 presidential election. For economics, Hispanics’ influence on labor force and buying power within the United States will need to be addressed. Lastly, education will address Hispanic college attainment and immigrant students within the United States. By analyzing the elements of politics, economics, and education, one will begin to understand why Hispanics are critical for the future of America.

Introduction

The United States currently has a population of about 353 million people that is steadily increasing as time goes by. In the United States an ethnic group is accelerating this expansion and it is the Hispanic population. Before talking about anything else, it is very important that we define what Hispanic means. According to Center for Disease & Control (CDC), it defines a Hispanic person as one who is from Cuban, Mexican, Puerto Rican, South or Central American, or other Spanish culture or origin, regardless of race. Something else to consider is the difference between Hispanics and Latinos. Hispanic refers to people who speak Spanish while Latino refers to people whose ancestry is geographically located within Central and South America (Rodriguez, 2014). So a Brazilian can be called Latino, but not Hispanic. Likewise, a person from Spain can be called a Hispanic but not Latino. It is a fine line that the American population has to acknowledge because of its impact on a person. In the end, it is really up to the person and how they want to identify (Flores, 2014). For the purpose of this report, we shall use the term Hispanic.

For the last decade, the American political, economic, and educational landscape has weathered a destructive storm. That period of time left a large amount of Americans battered, but those effected managed to make it through. As a new age dawns in the United States, so does a new challenge. The crisis is that American leaders are omitting the Hispanic population to the point that their influences on politics, economics and education are being overlooked. These actions toward the Hispanic population need to be rectified. The reason is that according to the U.S. Census, Hispanics will constitute about 30 percent of the entire population by 2050, making their influence greater as the years go by. There is less chance of Hispanic influence on politics, economy, and education being utilized correctly if this information is not realized. Thus, change through policies has to be made in politics, economics, and education to allow
Hispanics to improve their status. These areas have to be split into sub-sections for evaluation. Politics will be addressed through voter turnout, local and national elections and the 2016 presidential election. For economics, Hispanics’ influence on labor force and buying power within the United States will need to be addressed. Lastly, education will address Hispanic college attainment and immigrant students within the United States. By analyzing the elements of politics, economy, and education, one will begin to understand why Hispanics are critical for the future of America.

Political

“The form of government is best in which every [human being], whoever he is, can act best and live happily” (Aristotle, 350 AD) with limited intervention from government. Even though Aristotle lived two millennia ago, his dogma still rules over democratic governments. The presumed leader of them all is the United States government. When analyzed thoroughly, rifts can be seen in political agendas that deal with specific ethnicities. These faulty agendas have hindered the overall validity of American politics by not allowing its constituents to bask in its intended glory and help progress America. To realize Aristotle’s ideas would require a revision of current political agendas so that it better serves the growing and impactful Hispanic population. These revisions must focus on increasing Hispanic voter turnout, establishing the importance of local and national elections and preparing for the 2016 presidential election.

Voter Turnout.

During the Gettysburg Address Abraham Lincoln said that the government should be “of the people, by the people, for the people” (Lincoln, 1863). Otherwise you could deem the system faultily and replaceable. To avoid that, citizens of the United States, are encouraged to participate in local and national voting. Ideally the government would hope for all its citizens to vote, but it tends not to occur. A majority of these passive citizens tend to come from the Hispanic group. With the current Hispanic population being roughly 16% (Cardenas & Kerby, 2012), the U.S. Census Bureau has reported that Hispanics only make up 10.8% of the eligible voting population as of 2012 (File, 2013). This difference has to be acknowledged as something to look into because those 5.5% who are not eligible could become if they were to become citizens or of age, with the latter being discussed in due time. The 10.8% does not take into account those who did not vote. Once adjusted for that factor, the percentage drops from 10.8% to 8.4% (File, 2013). Hispanics in the 2.4% who do not vote do matter because as we move into future presidential elections (2016), Hispanics will continue to grow in size and voter eligibility. From 1996 to 2012, Hispanic voter eligibility grew from 6.1% to 10.8% (File, 2013). This growth means that every year more Hispanics become eligible to vote than any other population in America. In 2010, “over 1.3 million reached voting age” (Casellas & Ibarra, 2012), which is larger than any other minority group. The Pew Research Center reported that 34.9% (Lopez, 2010) of the Hispanic population are “younger than the voting age” (Lopez, 2010), compared to 20.95% (Lopez, 2010) for White non-Hispanics. Consider this: if you have a large and up coming population because of a sizable Hispanic youth, wouldn’t that mean that their voting population would increase proportionally too? The current Hispanic youth may not have immediate influence, but they do represent “a significant potential [to vote] as they continue to
reach voting age” (Casellas & Ibarra, 2012). This remark should not be taken lightly because it will influence American politics in the years to come. If neglected, the Hispanics eligible to vote will not align with its population, leaving large amounts of vacant votes. By allowing this to happen, American politics will return to its primitive roots, where one group’s input was dominant, rather than varying ones we should have today. This change will certainly influence an election, locally and nationally.

Local and National Influences.

The Hispanic population mostly inhabits every state in America, but with every minority group, there tends to be large clusters in specific locations. For Hispanics, the largest numbers reside in “states like California, New York, Texas, Arizona, Illinois and Florida” (Casellas & Ibarra, 2012), in no specific order. For that reason, Hispanics have a vast domestic political influence in these five states, but also these states themselves play a prominent role in national elections. As a result, political parties should pay attention to both these levels if they want their party to take control. When referring to local elections, it includes all gubernational, senatorial, or congressional district elections that happen at the state level. There may be lower levels than that, but that will be left to others. Let us look at the gubernational aspect of local voting. A fact is that “Hispanics are better represented among electorate in states with competitive race for governor” (Lopez, Krogstad, Patten & Gonzalez-Barrera, 2014) showing that their influence on who takes office is important. A prime example is in the state of Florida, where Hispanics “make up 17% of eligible voters” (Lopez et al., 2014). This is influential because this voting demographic makes politicians have to focus on appealing to Hispanics if they want to win the race comfortably. It happened in Florida when Cuban-Americans where the prime target, which turned out well for the winning political party. This situation does not only apply to Florida, but to others with similar demographics like Colorado, Connecticut, and Illinois, which have 14.2%, 10.3% and 9.5% (Lopez et al., 2014) respectively. As for the national level, we have to look at the swing states with high levels of Hispanics. For clarification, in a swing state the race between a Republican and Democrat, usually presidential candidates, is very close. As we get closer to the 2016 presidential elections, some states have already been identified as swing states like Florida, New Mexico, Colorado, Nevada and a few more. In previous elections, these states have not had a real consistency on which political party they vote for, so it is a prime spot to convince voters. Florida is a pivotal state because who ever wins it get 29 electoral votes, which is critical if the race where neck-and-neck heading into the final stretch. For a presidential candidate to win this state, they will have to win the vote of Hispanics. In the state of Florida, Hispanics make up 23.2% of the population and 17% of the eligible voter population. That is fifth among all states (Brown & Patten, 2014). If we look at the last presidential elections, the Democrats won Florida because of their appeal to Hispanics in regards to immigration. This time around, “if the Republicans don’t make gains among Hispanics” (Cohn, 2014) in Florida “they’ll need to make up for it elsewhere” (Cohn, 2014), which they never did in 2012. That finally sealed the fate of the Republican Party in the 2012 election. The same situation will happen this time around, so we will see how each party goes about it. Another state that was not a swing state during 2012 was Colorado. This time it is more important because it has been identified as a possibly electoral booster for the Republican Party. Currently
Colorado’s population is 21% Hispanics with a 15.9% voter eligibility. With nine electoral votes, Colorado has to be a focus point for the Republican Party because with the combination of Florida, the Republican Party would have had 38 more electoral votes in 2012. That change would have made the race more attractive than it was. The election of 2016 will be very interesting because Hispanics in these swings states will have two parties trying to capture their attention and ultimately what they decided may well decided the next president of United States.

Politics is complex to say the least, and when you couple it with trying to convince a certain population to vote, it gets to be a quagmire. That should not matter though, because with the information presented it would seem that paying attention to Hispanics is necessary from this point on. Focusing on just one area is not enough, but instead trying to cover all three areas as best as possible. By doing so it will yield the best result. The political party that can do that the best will have a majority of the control in government. The next objective of the government will have to be to promote economic prosperity among Hispanics.

Economic

A politician once said that “our (United States) workforce and economy are strongest when we embrace diversity to its fullest” (Thomas Perez, 2015). The passage articulates the current situation of Hispanic workers in the United States, where they hold extraordinary economic capabilities but are not being used to its fullest advantage. For this change to occur, United States industries will have to shift their focus to Hispanics in both the workplace and the buying market. By concentrating on these two areas, the United States economy may return it its previous position as the number one economy in the world.

Huge Labor Force.

As of 2012, Hispanics “make up 15.4 percent (21.9 million) of all employed persons age 16 and over” (Klobuchar, 2013). Keep in mind that these statistics are from 2012, so it is probably higher now and will continue to increase as the Hispanic population increases (Klobuchar, 2013). For a better understanding, this section will be split into two sub-sections that will help capture the importance of the Hispanic labor force in relation to the United States economy. They are, entrepreneurial business owners and the eventual cap in jobs available for Hispanics.

Entrepreneurship.

“Entrepreneurship is a [driving force for] U.S. job creation and overall economic health” (Davila, Mora & Zeitlin, 2014). Seems elementary right; if you create businesses you create jobs. This would work best in a growing economy, rather than a recessive one, which the United States had been in for about a decade. If you ask some, this country is still crawling out of the rock that was pushing them down. Through those dark times, a silver lining was amidst the United States that could pull the economy out. It was Hispanic entrepreneurs. During that decade, “entrepreneurship rates among non-Hispanics, U.S.-born individuals dropped” (Davila et al., 2014) while “Hispanic entrepreneurs grew by 71.5 percent” (Davila et al., 2014). These individuals, some U.S.-born and others not, decided to take a chance in the U.S. economy when it seemed
glum. Because of Hispanic optimism, it allowed the U.S. economy to speed up when it was most needed (Davila et al., 2014). The result was that many people were able to get a job because of one group’s decision to invest. Since the end of the recession, things have stabilized but not flourished. If previous entrepreneurial actions are any indication of what is to come, then it will be excellent. This predicting of what potential Hispanics have on the economy was done in 1990 on self-employment. Davila and Mora’s table estimated that in 2012, Hispanics, specifically Mexican Americans, would account for 7.6% (Davila et al., 2014) of self-employment. That estimate was incorrect; the actual number was about 8.7% (Davila et al., 2014). These miss calculations were not only applicable to Mexican Americans, but all groups within the Hispanic umbrella. The difference is good because it shows that “Hispanics overall outperformed expectations as entrepreneurs”, which helps everyone in the United States. To continue this trend, the United States will have to make itself “more friendly and welcoming to Hispanic entrepreneurs, [so] that in the coming years [these] figures look like little more than the starting point for future growth” (Davila et al., 2014). Otherwise, the job creators to power the future economy will be suppressed, leaving America in difficult situation.

*Cap in available jobs:*

The current population of the Hispanic community is about 53 million as of 2012 (Klobuchar, 2013). The population will continue to increase, which may begin to cause a problem when it comes to competition for work within the Hispanic community. Trying to offer a job to every Hispanic that wants one is a difficult thing to do. This is not just a belief, rather statistics show that as 2012 “66.4 percent of working-age Hispanics were in the labor force” (Klobuchar, 2013) meaning that a lot of Hispanics desire jobs. Hispanic desire to work is the highest among all groups, including White non-Hispanic, who are at 64% (Klobuchar, 2013). So Hispanics want to work, but they need to be given the job and that is the role that the United States should be taking. The issue is that most industries that Hispanics work in have an arbitrary quota of how many people they want to hire. The most troubling is that most Hispanics work within a limited number of sectors, making things harder. For example, Hispanics make up 24.4% of construction, 22.5% of agriculture, and 21.9% of leisure/hospitality (Klobuchar, 2013). With a young generation it would seem that these Hispanics in this industry would not retire soon, leaving others without jobs. Some may wonder why not look for employment in other industries, well with poor Hispanic college degree attainment, Hispanics do not qualify for those other jobs that White non-Hispanics can. The sectors that Hispanics do not qualify are ones that have “created jobs during the recession” (U.S. Department of Labor, 2012) like education and health services. Improvement in education may be the solution, which will be discussed soon, but for now let’s keep focus on economics. If these unqualified or beaten out Hispanics can’t find a job, it could lead them to unemployment. That does not work toward America’s advantage because those receiving unemployment are in a way hindering America’s progress. Keep in mind though, it is not the fault of the person but rather the system they live in. For that reason America has to make revisions. Along with these Hispanics not being employed, they have less disposable income to spend. This will slow the economy down because the more disposable income one has has the better off the economy is.
Buying Force. 

As a formality, it would be advisable to define what buying power means. Some may call it purchasing power but for this report it will be referred to as buying power. It means the “ability to purchase goods or services” (n.d., 2015) as a group or individually. With that cleared up, let us look at the Hispanic buying power. If the “U.S. Hispanic market buying power” (Nielsen, 2012) were a stand-alone country, it “would make it one of the top twenty in the world” (Nielsen, 2012). That is quite extraordinary if you truly think about it. The CIA reported the number to be about 1.1 billion dollars. For that reason, it would be very absurd if the United States did not recognize that the “marketplace has changed and [Hispanics] are [the] primary driving” (Nielsen, 2012) force. With Hispanics being “essential to future success” (Nielsen, 2012), the United States will have to focus on increasing areas of low Hispanic spending while maintaining the current ones. These low areas are tobacco, health care, entertainment, new vehicles and personal insurances (Humphreys, 2013). For this to occur, the market will have to offer affordable cost to these things, because of Hispanics’ traditionally low incomes. How to come about it differs among people, some may want political action while others want educational reform. The low-income factor should not deter the United States from increasing awareness in these areas because if so, the United States will miss out on the “1.2 trillion” (Humphreys, 2013) dollar disposable income that Hispanics have. Ultimately if forgotten, Hispanics will begin to change America’s economy for the worse than the intended good.

“[Hispanics] are no longer just a sub-segment of the economy” (Nielsen, 2012). rather “a prominent player” (Nielsen, 2012)., which is clear given the information presented. Moving forward, both the labor force and buying power of Hispanics has to be recognized and developed to higher levels than ever before. By doing so, America should be able to propel itself to the pinnacle of economic success, both domestically and maybe even internationally. One important factor briefly discussed was educational attainment. For the next section, we will look its impact on America as a whole.

Education

A consensus on the value of higher education is becoming more solidified among people as they begin to “recognize [education] as a gateway to success”(Cardenas & Kerby, 2012). This focus on higher education is splendid, but only when it benefits everyone attached to it. The current group that is not being helped thoroughly is the Hispanic youth. “Educational attainment among Hispanics is especially important to ensure that our (America) youth [is] academically equipped to meet the challenges of the future”(Cardenas & Kerby, 2012). For that reason, focus should be put on Hispanic higher education to correct this issue before it gets out of hand. Focus should be put on improving poor Hispanic college degree attainment and helping immigrant Hispanic students.

Low College Attainment

Enrolling in college and completing a college degree are two very divergent things. This section will look at that issues that we call college attainment. College attainment refers to any degree higher than associates. For Hispanics, “enrollment rates have greatly increased” (Cardenas & Kerby, 2012) but have not “always translated into a
college degree” (Cardenas & Kerby, 2012). Do not misconstrue this as indicator that Hispanics will not complete an associate’s degree, rather that they are “punching below their weight”. This is proven because in “2010, only 13 percent of [Hispanics] between that ages of 25 and 29 held at least a [associates] degree”. Five years later, Hispanics have raised that number to 20% (Santiago & Galdeano, 2014). This is great in all, but the previous percentages look at all Hispanics in America, disregarding state ratings, where some of the numbers may be surprising. Upon disaggregating the data, we can see the state of New Mexico, with a Hispanic population of 47%, only graduating 19% of the qualified Hispanics. Compared to Whites in that state (33%), the difference is pretty shameless, because how can a state with that many Hispanics have poor college attainment. It is not within their best interest, but they still continue. New Mexico is not the only state. Arizona is another state that has a high Hispanic population (30%) Like New Mexico, its Hispanic college attainment group only sits at 16%, while Whites are at 34% (Santiago & Galdeano, 2014). Again we can ask ourselves why this continues, these statistics may be from April 2014, but it is highly unlikely that much has changed since then. New Mexico and Arizona are some of the mediocre states, there are certainly better ones like West Virginia and Vermont. A common attribute between both West Virginia and Vermont is that they have a low Hispanic population. That should not matter because the goal is to give Hispanics a college degree, regardless of where they live or how many of their peers are around them. West Virginia has a Hispanic population of about 1%, but the amount of Hispanics who have college degrees is about 28%, which is greater than the white population there (24%) (Santiago & Galdeano, 2014). Some may argue that because of a smaller population of Hispanics, the numbers are over inflated. If you think about it though, they are not, because it just means that the state of West Virginia is doing their job better than many other states. Vermont improves upon that, with a population of 2% it manages to give Hispanics a degree at the rate of 44%, while the White population there receives it a rate of 42% (Santiago & Galdeano, 2014). That counter argument that because of a smaller population the numbers seem inflated is disproven with Vermont. The higher percentage states seem to be doing something that better suites Hispanics in college and it is sad that in America where you go to college determines whether you as a Hispanic receive your degree. This may call for better education in the United States because otherwise if you live in the highly populated western Hispanic states then you pre-determined to dropout and receive no college degree.

Immigrant Students.

As of 2012, there are about 11.2 million (Flores, 2014) Hispanic students in the United States. Of those 11.2 million, 36% are foreign-born and 64% are U.S. born (Santiago & Galdeano, 2015). These numbers have changed slightly, but what has not changed is that Hispanic immigrant students are among us and ready to study, but have not been offered the opportunities to. Focus should be put on helping Hispanic immigrant students because even though they do not make a vast number of Hispanics they still are potential contributes to the United States. It is like the saying, “we are only as strong as our weakest link” and currently that is what many see the Hispanic immigrants students as. So we have to help them become educated and eventually citizens of the United States. Actions have to be taken, one possible action is passing
the Development, Relief, and Education for Alien Minors (DREAM) Act. Certainly there are some flaws to it, like the possible increase in immigration if passed, but overall there seems to be more pros than cons. By “Congress’s failure to pass a comprehensive immigration reform” (Cardenas & Kerby, 2012), it has lead to a “disproportionate effect on the Hispanic community” (Cardenas & Kerby, 2012). An immigration reform for Hispanic immigrant students has to happen sooner than latter, otherwise it will cause Hispanics to lose all confidence in the education system.

The value of education is something that can not be expressed enough, but it is unfortunate that some never get to experience while others put it to waste, not because of their own fault, but because of the lack of support given. That is why it is the role of the United States government to offer these, whether it be through new policy actions or through other means. Education is not the only thing at stake though, as mentioned early in the economic section, educational attainment and Hispanic worker levels work together. Therefore if one is lacking, so will the other. Nonetheless, something has to be done, otherwise the current educational system will stay the stall and other counties will continue to progress. Ultimately “closing the gaps today will make us more competitive and stronger in the future” (Cardenas & Kerby, 2012).

Conclusion

Hispanics have always been around, but their role may have not been fundamental back then, but that has obviously changed if you read this. Time for action is now rather than later because if the United States waits too long to enact some of the before proposed motions, than America may well fall back into another dark recession. All three areas are equally important, but it seems as if there is a snowball effect when it comes to interaction between them. If the Hispanic population does not have good education, then they do not have much money to spend, and therefore decision-makers will have less interest in them. Whatever way you look at it, there is no simple solution. That fact that you are looking at it at all is the first step toward making America better through helping the Hispanic population. If awareness is all you get out of this report, then my job is done here, because awareness is always better than ignorance.
References


Jeffrey M. Humphreys. (2013). The Multicultural Economy (pp. 9–10). University of Georgia.


Liuzhou city is the largest industrial base in Guangxi Province. Automobile, machinery, and metallurgy are the three pillar industries of Liuzhou city. By the year 2014, there were more than 3400 industrial enterprises in Liuzhou, five of which were Chinese top 500 industrial enterprises.

Yufeng District is in the southwest of Liuzhou. Having a population of 454 thousand, and an area of 474 square kilometers, Yufeng district is one of the four districts in Liuzhou City. There are plenty of natural tourism resources in Yufeng district, and it is also a traditional industrial district in Liuzhou.
**Development and Limitations of Yufeng District Industry**

The industrial economy in Yufeng district developed rapidly in the 1980s. The industrial production of Yufeng district increased from about $4.9 million in 1980 to about $4.3 billion in 2014. There are about 400 industrial enterprises in Yufeng district, including several large state-owned enterprises, private enterprises, and foreign-funded enterprises. There are 39 enterprises whose assets are over 100 million Yuan each.

Faced some ensuing problems of industrialization and urbanization such as pollution and limitation of the land, Liuzhou city decided to find an efficient way to accelerate the transformation of economic development. That is called 'revitalization of the urban core' plan.

As one of the urban area of Liuzhou city, Yufeng district is a typical reformer in the revitalization. In this presentation, I will focus on the problems, revitalization measures, development status, and the challenges of the revitalization in Yufeng district and Liuzhou city.

**Pollutions:**

1. **Acid Rain:** Liuzhou is a basin city. Because of the terrain of Liuzhou city, the exhaust gas discharged from the industrial enterprises are difficult to disperse. These emissions are the main cause of acid rain. At the end of the 1970s, the acid rain in Liuzhou was first found by local environmental workers. A local monitoring data shows that from 1985 to 1995, the highest acid rain frequency in Liuzhou was 98.5%. Liuzhou was one of the four most serious acid rain cities in China at that time.

2. **Water Pollution:** "You couldn't imagine that such a beautiful waterfalls in Yufeng district was an outlet of a dyeing factory." It’s said that in the last century, industrial wastewater and domestic sewage discharge straight from nearly 50 channels into the Liujiang river. In 1996, the total industrial wastewater emissions was about 182 million tons.

**Land Resources Shortage:**

With the economic and social development, the land resources cannot satisfy the further development of Liuzhou city. There are increasing conflicts between the limited land resource and the rising demand of urbanization, new industrialization and the development of service industry. Shortage of land has become an important problem for the further development of social economy and people's livelihood.
In recent years, in order to solve the problem of economic development and meet the bottleneck, Liuzhou decided to extend the urban core to improve the bearing capacity of the city and the formation of new industry gathering area.

In 2005, the government building of Yufeng district was moved from the original center to the southeast of Liuzhou. From then on, Yufeng district gradually focused on developing the undeveloped area in the southeast part of Liuzhou. Consequently, some new industrial parks were built and lots of industrial enterprises which located in the urban area were shut down or moved to the undeveloped area.

New Industry Parks
Adjusting the industry structure and upgrading industrial technology are two key tasks in Yufeng district. One main measure is to strengthen the construction of Luowei industrial park, and introduce high technology industrial enterprises such as electronics, biology, medicine, and environmental protection industrial projects. In 2014, industrial output value of Luowei industrial park was $1.74 billion, accounting for about 39% of the gross value of industrial output in Yufeng district.

Revise Industrial Structure
In order to improve the environment, Liuzhou municipal government determined to shut down some heavily polluting enterprises, and push the rest of the industrial enterprises moving out from the urban area and concentrating in the industrial parks. Meanwhile, Liuzhou requires the industrial enterprises to enhance the level of clean production and pollution prevention ability.

In 2014 there were ten industrial companies moving out from Yufeng district. There will be more industrial enterprises moved out from the urban area in 2015.

Technology Upgrading
By implementing the strategies of “adjust the industry structure, accelerate the process of new industrialization”, Liuzhou makes huge progress in improving industrial quality, efficiency, and technology upgrading.

In 2014, the industrial output value of strategic emerging industries reached $5.7 billion, accounting for 8.3% of the gross value of industrial output, 1.2% higher than that of 2013. (Liuzhou Municipal Government Annual Report, 2015)

In 2014, Yufeng district government spent about $3.8 million on science and technology fund and $1.1 billion on renewal and reconstruction funds to support industrial enterprises for technology upgrading.
Yufeng district introduced two policies named “The Temporary Management Methods of Service Industry Supporting Funds in Yufeng District” and “The Temporary Supporting Methods for Enterprises or Units above Designated Size”. By allocating supporting funds, Yufeng district encourage the service industrial enterprises to develop their business. In addition, through integrating the land resources of the moved-out industrial enterprises, Yufeng district tried to attract investments in department stores, hotels and other service projects. Besides, Yufeng district tend to scientifically develop tourism projects in the rich natural landscape areas. In 2015, Yufeng district plans to implement 27 service industrial projects, with the total investment of $2.2 billion.

Effects of the solutions:
Great progress in environmental protection has been made in Liuzhou city. For instance, the average PH value of precipitation was 4.41 in 1993, while in 2012, the average PH value of precipitation was 5.65. In 1993, the acid rain frequency of Liuzhou was 92.1%, while in 2012, the acid rain frequency decreased to 11.3%. After years of governance, Liuzhou now has become a typical city of environmental protection. The water quality of Liujiang river is one of the best in Guangxi province. F1 motorboat world championships held in Liuzhou for seven years because of the good water quality of Liujiang river.

1. Economic Challenges in the Transformation Period
Lots of original industrial enterprises have moved out from urban area, but the new industrialization and service industry are not mature enough, and it leads to the weakness of the city’s economy. In 2014, there were 10 industrial enterprises moved out from Yufeng district, thereby causing loss to the output in about $150 million. Moreover, the new industrial park is not completely constructed, thereby it’s difficult to fill economic vacancy.

2. Conflict Between Short-term Benefits and the Long-term Development
To solve the problem of land resources shortage, Liuzhou city decided to extend the urban core to the east part of Liuzhou, which needs land expropriation from private individuals and enterprises. However, the current land expropriation conflicts also cause some problems on social stability.

3. Policy Orientation
China has entered a new normal economy period, so the overall economic downward pressure becomes serious, thereby the production and sales of some large enterprises in Liuzhou were decreased. In 2014, influenced by policies and declining market, the sales of two main industrial enterprises in Yufeng district were decreased by 37.9% and 17.1% respectively. Besides, in order to accelerate the construction of two new districts which are located in the east part of the city, Liuzhou allocated more resources in these two new districts. Thereby, the resources allocated to Yufeng district was limited.
1. Accelerate the Construction of Industrial Zoon and Provide Better Services
   The first suggestion is to speed up infrastructure construction of the industrial parks to improve the carrying capacity and service level of the industrial parks, such as water supply, sewage treatment, and public service. Liuzhou could supply corresponding supporting facilities to different industrial parks according to the different function of the industrial parks. In addition, in order to attract investment, Liuzhou could change single production-oriented industrial parks into multi-function communities with the functions of production, service and consumption.

2. Develop New Industrialization
   Industrial parks should focus on new energy vehicles, intelligent manufacturing equipment, biological medicine, electronic information, energy conservation, environmental protection and other industries. Liuzhou could provide various preferential policies such as market access, land use, financial support to these strategic emerging industries. Compared to the traditional industries, strategic emerging industries are more beneficial to reduce environmental pollutions.

3. Improve Public Services
   At the same time, Liuzhou should also pay more attention to provide public service for citizens to ensure social stability. Liuzhou city government should increase government funding to improve education, poverty alleviation, employment, social security, health care, and food safety issues. In addition, Liuzhou still should pay more attention to low-income people and particularly difficult people to ensure that all citizens enjoy their life in Liuzhou.
THANK YOU!