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The Effect of Articulated (tech prep) Credits on College Outcomes
at a Stand-alone Technical College

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Introduction and Background

In 1985, *A Nation at Risk*, was published initiating wide-spread educational reform throughout the United States. Vocational Education, now known as Career and Technical Education, was no exception. Dale Parnell, then president of the American Association of Junior and Community Colleges, conceived of the tech prep program as both a cure for senioritis and as a way to prepare students for the increasingly technological careers that were needed for the technological revolution of the time.

The tech prep program was aimed at the middle two quadrants of high school students. A group Parnell termed “the neglected majority” (Parnell, 1985) High achieving high school students participated in college prep curriculum to prepare for university educations. The neglected majority, under Parnell’s vision, would participate in tech prep. He envisioned applied academics and hands-on experiential learning. Students would earn credit in post-secondary technical programs in order to provide a seamless transition between high school and postsecondary education. These students would be prepared for entry-level, technical work after a short post-secondary training program.

Tech prep was widely implemented across the United States. High schools formed consortiums with their local technical or community college to develop articulation agreements. Tech prep eventually became Title II in the Perkins grants, and accountability measures put into place. Accountability measures included both testing and the production of recommended credits that would be applicable to postsecondary technical schools. The problem this research addresses has to do with the accountability measures of credit generation. There is very little current research about the effectiveness of articulated tech prep credit on college outcomes such as retention, completion, and time-to-degree. In addition, there is no research that participation in tech prep programs has an impact on career discernment. Career discernment is the cognitive process a young person goes through to combine interests, aptitudes, and opportunities in search of a career role (Jernberg, 2018).

The tech prep program purports to combine technical college credits produced in high school, combine them with hands-on technical skills, and career discernment to result in increased persistence/retention, certificate and degree production, and decreased time-to-degree. The purpose of this study is to understand the effect of tech prep participation and associated articulated credits on student outcomes. We looked at college outcomes (retention, completion, time-to-degree) of tech prep students compared to their non-tech prep peers. We analyzed the applicability of the credit to the students’ post-secondary degree, and devised a method to analyze the effect of participation on career discernment.

Several studies have been conducted on the tech prep program. The first series, the Brodsky studies (Brodsky & Arroyo, 1999; Brodsky, Newman, & Arroyo, 1997), looked at high school participants in the tech prep program. Brodsky found that high school student participating in tech prep had better high school attendance and were more

likely to graduate high school and enroll in post-secondary education. Once at college, the students had better retention than their tech prep peers.

The Bragg studies (Bragg, Dare, Reger, Ovaice, Zamani, Layton, & Orr, 1999; Bragg, Kirby, & Zhu, 2006; Bragg, Loeb, Gong, Deng, Yoo, & Hill, 2002). covered eight consortiums over a six-year time period. Bragg found that high school students had better college going behaviors, but college outcomes of retention and completion did not differ. Other studies found that tech prep participants had a shorter time-to-degree, and either no differences or marginally better differences within the tech prep group for college outcomes of retention and completion.

Preparing for the study

Preliminary to this study, the researchers conducted an analysis of tech prep credits generated by the partner stand-alone technical college. From FY13 to FY17, 1097 students purchased 5,097 credits applicable to post-secondary technical programs at the partner institution. Most of the credits (70%) stayed in-state, but only 13% of the credits were transcribed to two-year colleges. The partner college retained 70 students worth 493 credits. When technical credits are transcribed to four-year colleges, they are likely counted as electives. Out of state colleges similarly will count those credits as electives. Elective credits are unlikely to apply to a degree at four year colleges.

Description of Dataset

The researchers began with a dataset provided by the partner college of 1,216 degree seeking students. Three-hundred ninety seven student were eliminated because the students graduated from out of state high schools and were unlikely to have been affected by the instate tech prep program. The dataset was further reduced by students who had graduated high school outside of the time frame where articulated credits were still useful. This left 398 records of instate high school graduates that matriculated to the partner college within three and a half years of high school graduation. Of those, 68 had articulated tech prep credit, comprising the tech prep group. The remaining 330 students were the non-tech prep group.

Retention findings

Retention in this study is defined as enrollment in second semester classes. A 2 x 2 matrix of success and failure was created and analyzed using the chi-square statistic. Eighty-two percent of the tech prep students were retained to second semester compared to 67% of the non-tech prep students. The results are statistically significant at a .05 confidence level ($p=.0106$).

Completion findings

Completion at the partner college is the conferral of a one-year technical certificate, advanced technical certificate, or a two-year Associate of Applied Science degree. The data were analyzed in a success/failure matrix using the chi-square statistic. Fifty seven

percent of the tech prep students completed programs at the partner college compared to 35% of the non-tech prep students. The difference is statistically significant with a small effect size, $p(2, n = 317) = .0121$ (two-tailed), $V = .172$. Tech prep students were more likely to complete than their non-tech prep peers.

Time-to-degree findings

Time-to-degree is a percentage measurement that shows how long it takes a student to complete a program. If the student completes on schedule, according to scope and sequence, he or she is said to have completed at 100% time-to-degree. Percentages higher than 100% show the extra amount of time a student takes to finish the program. In this study, tech prep student averaged 114% time-to-degree, while non-tech prep students completed at an average of 131% time-to-degree. In addition, the tech prep students had a smaller standard deviation (.23) compared to their non-tech prep peers (.54). These findings were statistically significant with a small effect size, $t(112.22) = -2.47$, $p = .0151$ (two-tailed). Tech prep students had a shorter time-to-degree than their non tech-prep peers.

Applicability of tech prep credits to degree and influence on career discernment

The second part of this study looked only at the tech prep students in an effort to understand the effect of articulated tech prep credit on the earned degree, as well as the effect on career discernment. The researchers analyzed articulated credit as it applied to the degree in three different ways. First, did at least one tech prep credit apply to the degree the student completed? For the 30 students who completed, 19 (63%) had at least one credit applied to the completed degree. Second, what was the number of courses that applied to the degree? Of the 72 courses articulated to the partner college, 40 (56%) were applied to the degree. Third, what was the number of credit that applied to the students' earned degrees? Of the 196 credits that were transcribed from tech prep programs, 109 (56%) applied to students' earned degrees.

Regarding career discernment, our research seeks to understand the influence participation in tech prep may have had on a student's motivation to pursue a course of study associated with a particular career cluster. Of the 30 students who earned a degree from the partner college, 21 students had transcribed tech prep credit in the same career cluster as the earned degree.

Study results

This study provides evidence that participants of the tech prep program were successful in achieving better retention, increased certificate and degree production, and shorter time-to-degree. However, the gain is small. Of the 68 students who transcribed tech prep credits to the partner college, 30 students completed and were able to use 109 credits.

In this study, of the recommended credits earned from high school, only 29.5% were transcribed to any college. One and one-half percent were transcribed to the partner

college, and less than 1% applied to degree programs for the students' completed degrees. This diminishing effect of earned credits calls into question the accountability measure of generated credits within the tech prep program.

Yet, the effect of tech prep participation on career discernment is worth investigating further. The value of the tech prep program, indeed in career technical education in high school, may be in the exposure of students to career paths. By participating in hand-on career curricula and applied academics, students are able to explore careers and learn what types of careers may be of interest to them thus propelling them to further training in that career area.

Policy implications

The policy implications of this research take into account the estimated 46,000 job skills-gap that the state is anticipating by 2024. The current focus of the tech prep program is on generating technical credits that transfer to technical degrees. The results show that while, beneficial, the impact is small. As a result of this study, the researchers believe the new focus should be meaningful, hands-on, career exploration guided by career clusters. The researchers believe that this career linkage would increase the number of students going to any college – technical or university. Therefore, the emphasis of career and technical education for high school students should be on generating interest and authentic exposure to career areas. High schools should have a variety of career clusters represented in their career technical education programs to inspire students to learn what career they have the passion, skills, and abilities in, then move forward with career advising to match the student to the appropriate level of participation.

Further study

Additional study is needed to support the policy implications. A quantitative study is needed to track the students and credits of the students who did not matriculate to the partner college. We want to understand if the credits did apply to the degree and if the credits were in the same career cluster as the student's major area of study. In addition, we suggest a qualitative study to understand the impact of high school career curricula on the students' career decisions.

Conclusion

High school tech prep programs are of benefit to students. Practical, hands-on and applied education can provide success to all students, and can help motivate a student to pursue a particular line of work. However, credit generation should not be the desired accountability measure for the success of high school tech prep programs – the generation of passion has far reaching effects on the student's ability to succeed in college and in life.

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PowerPoint Slides

The Effect of Articulated (tech prep) Credits on College Outcomes at a Stand-alone Technical College

Leslie Jernberg, Ed.D & Yolonda Barnes, Ed.D

What is tech prep?

- Credit-based transition program leading to postsecondary career education
- Rooted in Career and Technical Education (CTE)
- Funded through (federal) Perkins grants to states
- Results in high school students earning technical credit applicable to technical programs at postsecondary institutions
- Creates a seamless transition between high school and postsecondary technical education

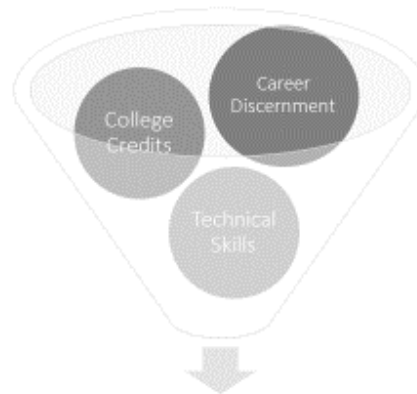
The problem

- Perkins requires either tech prep or a similar program (POS) with accountability measures (testing and generation of credit)
- Yet, there is very little current research about the effectiveness of articulated tech prep credit on college outcomes such as retention, completion, and time-to-degree

Purpose Statement

The purpose of this study is to understand the effect of tech prep participation and associated articulated credits on students' college outcomes.

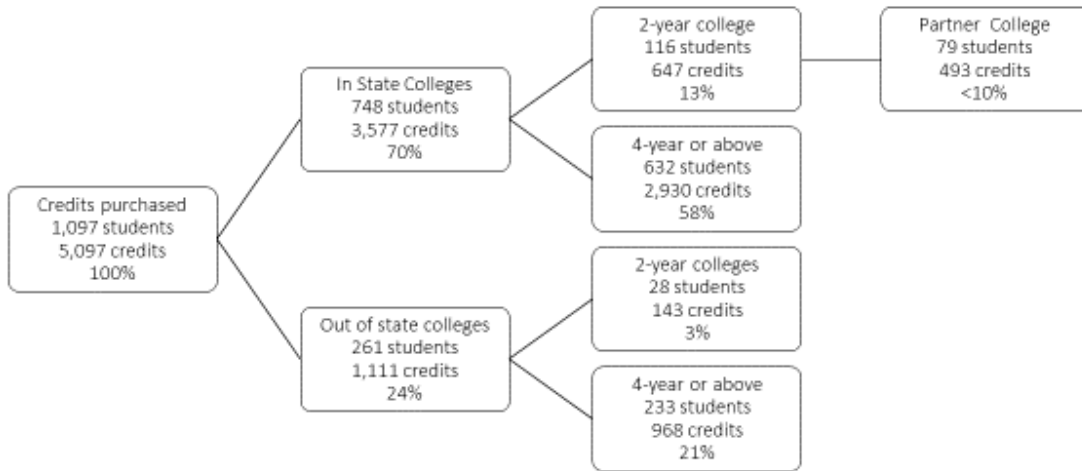
- Outcomes – tech prep vs non-tech prep
- Applicability of the credits
- Career discernment



- Increased Persistence/Retention
- Certificate And Degree Production
- Decreased Time-to-completion

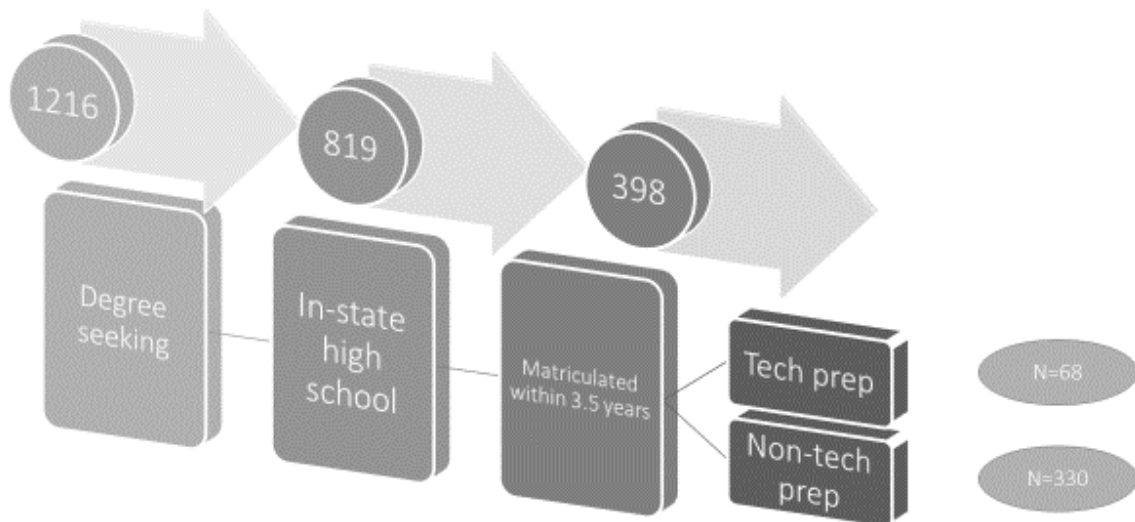
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Credits Articulated Through Partner College – FY13-17

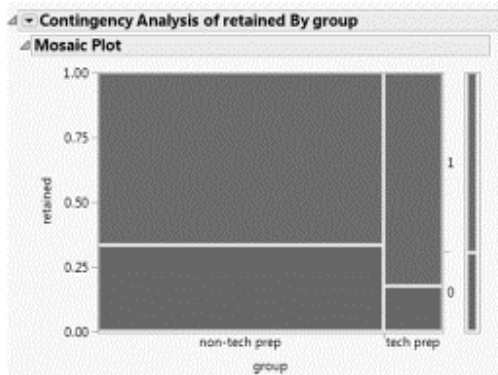


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Participants/Sampling



Findings on Retention

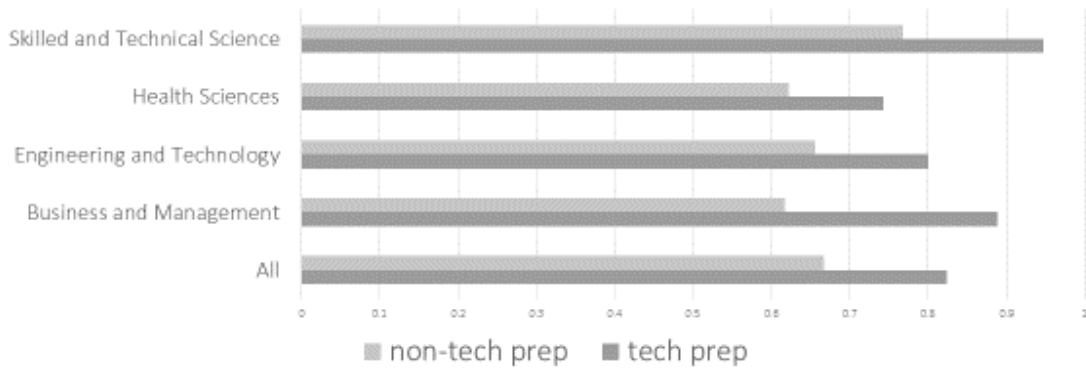


Significant $p = .0106$
 $\Phi = .128$

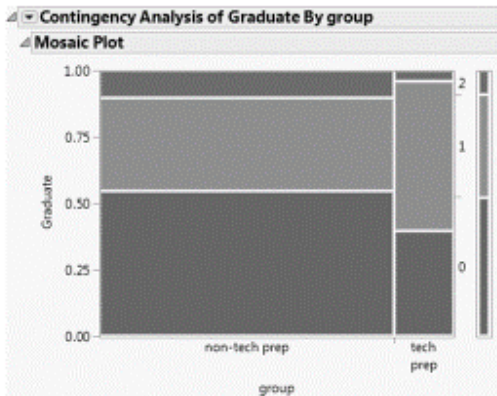
	Tech prep	Non-tech prep
Retained	56 (82%)	220 (67%)
Not retained	12 (18%)	110 (33%)

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Retention by career cluster



Findings on Completion

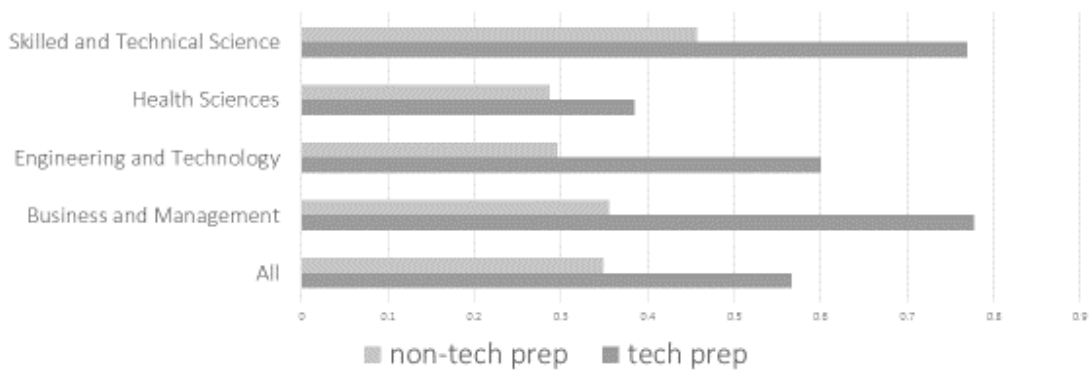


Significant $p = .0121$
 $V = .172$

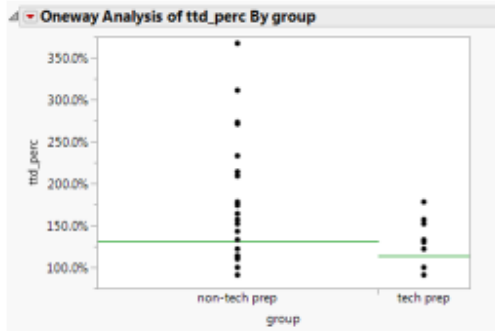
	Tech prep	Non-tech prep
Completed	30 (57%)	92 (35%)
Did not complete	21 (40%)	145 (55%)
Still enrolled	2 (4%)	27 (10%)

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Completion by career cluster



Findings on time-to-degree

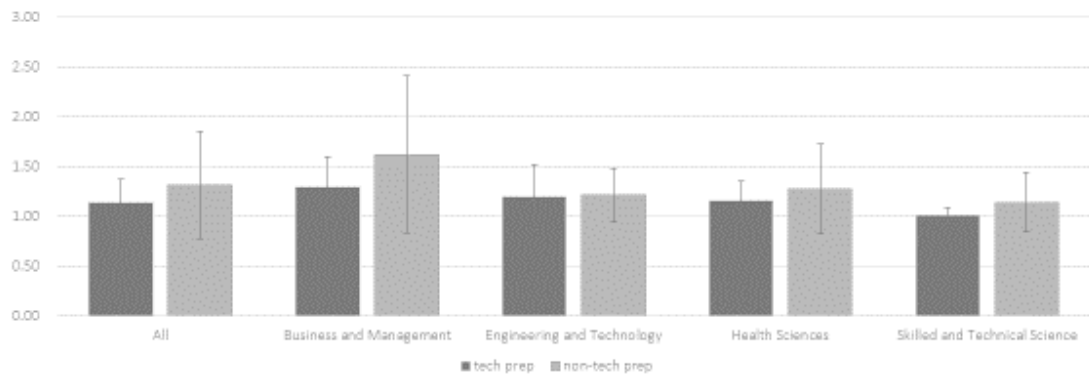


Significant $p = .0151$
 $d = .41$

	Tech prep	Non-tech prep
Time-to-degree (% of normal)	N=30 M=1.14 SD=.23	N=92 M=1.31 SD=.54

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Time-to-degree by career clusters



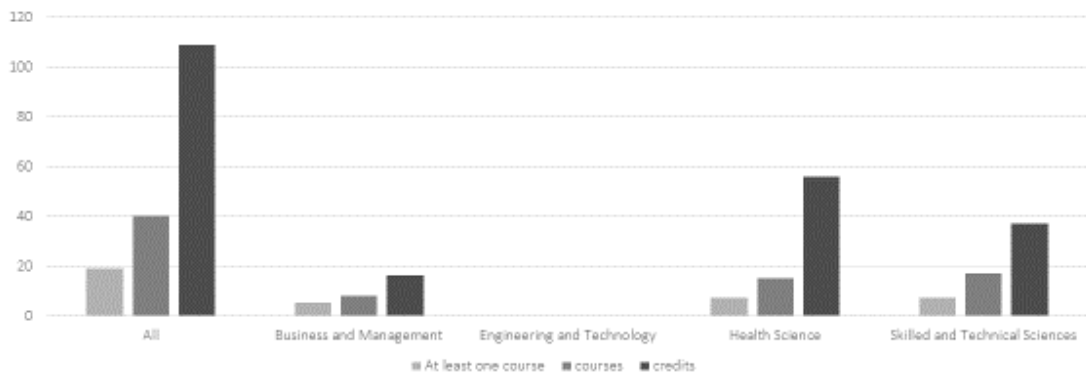
Findings on tech prep credits applied to degree

Application of credits	yes	no
At least one articulated credit applied	19 (63%)	11 (37%)
Number of courses that applied	40 (56%)	32 (44%)
Number of credits that applied	109 (56%)	87 (44%)



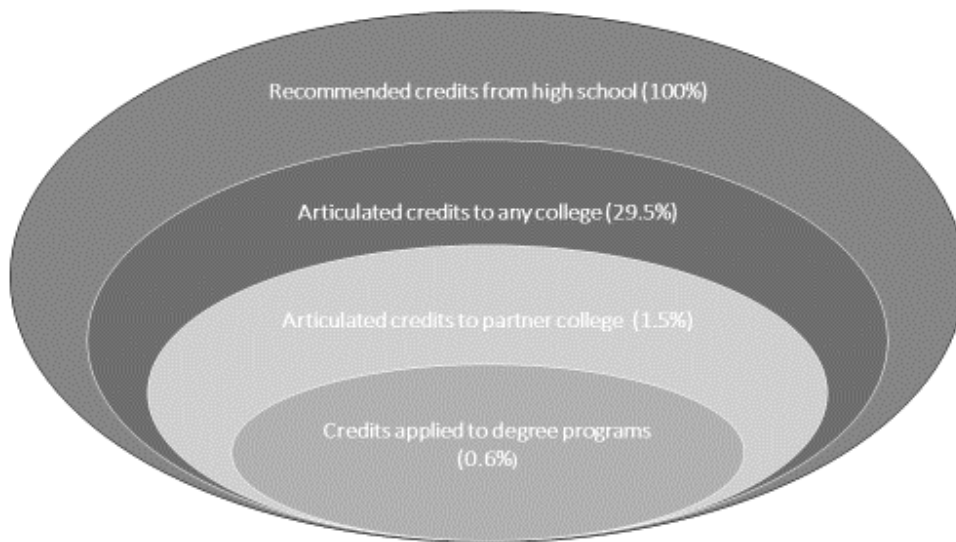
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Credits applied to degree by career cluster



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Summary of credit applicability



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Policy implications

- Skills gap: 46,000 jobs by 2024
- Current focus: Perkins - credit generation
- New focus: Career exploration/career discernment
- Career linkage: increase the number of students going to college
- Funding: variety of career clusters

**Angels Among Us:
A Sociological Analysis of Guardian Angel Cathedral
In Las Vegas**

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Independent Scholar

William M. Kirtley
Central Texas College

Authors' Note

After the presentation of “Angels Among Us: A Sociological Analysis of Guardian Angel Cathedral in Las Vegas” at the National Technology and Social Science Conference, one member of the audience termed it “a perfect example of participant observation.” The authors adopted the methodology of participant-observation for three reasons. First, because the clergy and members of the church congregation, though welcoming, are justifiably protective of their unique place of worship. Second, the subject matter lent itself to a blend of methods and techniques of observation, including examination of relevant theory, document analysis, and interviews. Third, the motivating inspiration of the two artists provided an incredibly innovative, optimistic, and inspirational interpretation of traditionally accepted devotions.

As practicing Roman Catholics, the authors participated in services for at least twice yearly for ten years. They noted the unusual architecture and colorful windows, but did not really understand them. Two years ago, they purchased “Toward the Total Christ” by Isabel Piczec at the gift shop of the church. They were intrigued by the artist’s explanation about the depth, and meaning of the art and architecture of this cathedral on the Las Vegas Strip. They read deeply into the sociology of religion, as well as, liturgical art and architecture. They interviewed clerics and parishioners. Lastly, they made several visits to the church to photograph and study the murals, mosaics, and stained glass windows. There followed nearly two years of intense discussion and detailed analysis of a complex artwork.

The authors received no funds from outside sources for their research. They undertook their pilgrimage for intellectual and spiritual growth and reaped a rich reward on both counts. The authors encourage you to visit the Cathedral during the visiting hours posted on the web or view photographs of the stained glass windows at About Our Cathedral, <<http://www.gaclv.org>>.

Abstract

Las Vegas, Nevada is an adult amusement park with incredible culinary delights, potent alcoholic libations, and noisy, brassy, gaming that promises the possibility of instant wealth. It is exciting and, for some, addictive. A drive down the famous “Strip” passes unusual architectural wonders depicting a pyramid, Caesars Palace, the Eiffel Tower, a Medieval Castle, the New York skyline, and an Italian villa, each enticing visitors to enter, enjoy the delights within, and spend money. In the midst of these exhilarating attractions, on a small side street stands a rather unusual, neon-free building, a Catholic church, Guardian Angel Cathedral. St. Francis de Sales observed, “Make yourself familiar with the angels, and behold them frequently in spirit” (Interfaith Chapel). Christian, Muslim, Jewish, Buddhist, and Hindu religions rely on these heavenly messengers. Many people insist there is a special “Guardian Angel” whose job is to protect and guide them. This paper analyzes the architecture, art, and community of Guardian Angel Cathedral from a sociological viewpoint. It deals with people’s views of life after death and the way to obtain it, not as a matter of faith, but how these beliefs influence the conduct of people’s lives (Cristiano 27). Sociologist Max Weber’s (1864-1920) concept of aestheticism and mysticism helps one understand the term, “mystic realism,” the thought that inspired the art in Guardian Angel Cathedral. Most of the world’s religions have a strain of mysticism, the belief that one attains union with the Deity or the Absolute through contemplation and self-surrender. Guardian Angel Cathedral offers several gifts as an object of analysis. It provides a quiet contemplative space away from the gaudy neon lights and temptations of the strip. It is a prime example of modern or Googie architecture, a staple of popular culture both derided and lauded by contemporary architects. It’s religious art carries a total message that challenges viewers intellectually and spiritually. The closest one comes in describing these artistic masterpieces is as mirrors of the individual observer’s depth of Christian understanding and commitment. In a fragile medium, they offer a charismatic challenge, as well as, a historical commentary to all. One of its bright windows depicts several Las Vegas casinos. The Cathedral welcomes all visitors in the spirit of the words of Geoffrey Chaucer in *The Canterbury Tales*, “pilgrims were they alle” (line 25) and provides an inspirational starting point to begin that journey.

Introduction

For He will command his angels concerning you to guard you in all your ways.

Psalm 91:11

Cascades of pulsing neon lure gamblers to casinos. Pyramids and castles, as well as, replicas of architectural delights in Venice and Paris beckon those with money to spend. Hucksters prowl Las Vegas Boulevard preying on gullible tourists. French sociologist Jean Baudrillard in *Simulacra and Simulation* (1986) asserted that Las Vegas is the “absolute advertising city” where consumers can find a greater variety of large-scale reproductions than in any other place (91). North on Las Vegas Boulevard, past the up-scale Fashion Show Mall and Encore, Steve Wynn’s luxury resort, is a narrow road. At its end, lies a unique Roman Catholic Cathedral. How it found a place amidst the glitter and excess of the Las Vegas strip makes for a fascinating story.

The narrative of Guardian Angel Cathedral began in 1955 when the Viator Order of priests built a church on the site of the city dump. It proved untenable and the city condemned it within six months after its completion. In 1958, the priests of the Congregation of St. Viator began celebrating a 4:30 PM Sunday Mass in the showroom of the Desert Inn Hotel especially for hotel workers; cooks, waiters, bartenders, and musicians, working the swing shift (Cathedral Celebrates).

Pastor Richard Crowle established good relationships with casino owners. He convinced them that a church on the strip was good business. Casino moguls did not want their Catholic customers or employees wandering too far from Las Vegas Avenue. With their donations, Crowle built Guardian Angel Church in 1963 on a thin strip of land donated by Morris (Moe) Barney Dalits, a Jewish mobster, who owned the Desert Inn. Dalits, known as “Mr. Las Vegas” for his philanthropy, commissioned African-American architect Paul Revere Williams with whom he worked on the Royal Nevada Hotel.

This paper focuses on the architecture and art of Guardian Angel Cathedral. It employs the sociology of religion to ground this inquiry firmly in the social sciences. It is based on what the observer can see, measure, and observe rather than on faith. Sociology also provides lessons in the functions of religion and meanings of ritual, and importance of community. This inquiry examines the Cathedral’s unique architecture, and unsurpassed art. Two sisters, Isabel and Edith Piczec spent over a decade fashioning the art of the cathedral. Their view of the process of salvation, mystical realism, is the key to understanding the ultimate meaning of their art. The challenge for comprehending their mysticism is realizing knowledge comes not from reason, but from intuition.

The Viatorians of Guardian Angel Cathedral refer to visitors, not as tourists, but as pilgrims. This paper gives all seekers of truth a glimpse of a unique view about the ultimate meaning of life. Such opportunity is rare in the post-secular age, an unexpected treasure in the desert Xanadu of Las Vegas.

Sociology for an Angel

Religion is a culture of faith; science is a culture of doubt.

Richard Feynman, *Twitter*. 2018

Sociological theory, as it relates to an analysis of Guardian Angel Cathedral, recognizes that religion played a role in human affairs in the earliest known societies.

Evidence shows clear traces of the beliefs, practices, symbols, and rituals among humans (Crossman). Classical Sociologists, Emile Durkheim, Max Weber, and Talcott Parsons examined religion in its social and cultural context.

Emile Durkheim (1858-1917) published the last of his groundbreaking works, *The Elementary Forms of Religious Life*, in 1912. He defined religion as “a unified system of beliefs and practices relative to sacred things, that is to say, things set apart and forbidden, beliefs and practices which unite into one single moral community called a Church” (44). According to Durkheim’s definition, Guardian Angel Cathedral is more than a building, meeting hall, or gathering place. It is a church.

Durkheim used the word “church” to describe people united by their religious practices. This term refers equally to people offering flower garlands at a Hindu temple and those attending vespers at St. Paul’s Cathedral in London. Sacred rites and rituals take place in both edifices. Both feature architecture and art designed to reinforce how believers see themselves as part of a divine plan. The images outside the Hindu temple remind believers to leave earthly things outside and focus on the truth of the tenets of their faith. St. Paul’s towering dome, designed by Christopher Wren, calls attention to its place as Mother Church for a city distinguished by innumerable Anglican churches.

Durkheim studied things he could observe or measure. He never claimed the ability to establish the truth of any religious teachings. In fact, he asked that free thinkers “confront religion from the same mental state as a believer” and that free believers forget provisionally the formula they believe in, reserving the right to return to it later (xvii). Durkheim stated three elements define a religion: beliefs that some things are sacred, rituals centering around the things considered sacred, and lastly, a moral community or church resulting from a group’s beliefs and rituals.

Max Weber used the concept of inner-worldly or ascetical, and outer-worldly or mystical, to describe different aspects of religion (Christiano 310). Inner-worldly speaks to the conduct of life on earth as exemplified by the practice of Medieval Catholicism and the Protestant ethic. Outer-worldly refers to life after death, the locus of classical Hinduism and contemporary Pentecostalism. The thread of mysticism is woven throughout Christianity from the Biblical story of Martha and Mary (Luke 10:38-42), to Hildegard Von Bingen, to modern day Quakers. Weber explained the activity of the mystic within the world is characterized by a humble “brokenness” constantly striving to escape from activity in the world to the quiet inwardness of the god (Weber H.2.d).

American Sociologist Talcott Parsons (1902-1979) argued that the chief function of religion was to control people’s behavior by giving them guidelines for everyday life. Another functionalist, Milton Yinger (1970) asserted the principle function of religion was to answer the ultimate question of the meaning of life and what happens after we die. Believers throughout history asked these same questions. Why do people suffer? Is there life after death? The answers to these queries give people a sense of purpose. “Instead of seeing themselves buffeted by random answers in an aimless existence, believers see their lives as fitting into a divine plan” (Henslin 533). Other functions of religion include emotional comfort, social solidarity, adaptation, support for government, and fostering or resisting social change (Henslin 533-535).

One function of religion is to comfort adherents with a picture of life after death. Most Christians believe in a divine plan of salvation (soteriology). They explain man sinned and fell from God’s grace. Out of love for mankind God sent his Son who,

through his death and resurrection, brought salvation. The architecture and art of Guardian Angel Cathedral provides symbols and rituals that reinforce and explain this belief. Dennis McNamara in his book, *Catholic Architecture and the Spirit of Liturgy* (2009), a primer on how to build a Catholic church, noted “liturgical art and architecture are part of the “process of people learning about God so that they can return to Him” (36).

Niklas Luhmann (1927-1998), a follower of Parsons, defined his work on the sociology of religion in *Systems Theory of Religion* (2000). He saw religion as one of the many functionally differentiated social systems that made up modern society e.g. law, government, art, and religion. These systems consist of communications between individuals and social systems. Differentiated functional systems are autopoietic i.e. they reproduce themselves. Luhmann saw church as a system that provided a code for coping with a complex and often uncontrollable world. He maintained the function of religion was to allow “the individual it represents a resource of meanings that allows one to imagine as united what is in reality divided, as absolute what is relative” (Cipriani 244). In this sense, religion provided an interpretive function. Religion dominated all ways of thinking in Medieval times, but today each system is more or less autonomous.

The German philosopher and sociologist, Jurgen Habermas’ theory of communicative action elaborated on Luhmann’s theory. Habermas (1929) stated that both sides of any communication must understand each other’s language, its meaning, and its validity (Leydesdorff 273). Just as society shapes individuals, church buildings influence worshipers.

Architecture

Faith’s grammar in built form.

McNamara 15

Architects put theory into practice. When builders design a place of worship, they transform theology into wood, glass, and stone. The functions of a church determines its plan. The more numerous the functions, the more complex the church. An early Latter-Day Saint temple was little more than a room with folding chairs, but later temples featured specialized rooms for specific rituals. A mosque or Jewish temple needs separate spaces for male and female worshipers. Many Christian churches adopted a cruciform shape.

Architecture is a visual art best understood when buildings speak for themselves. Steven Schloeder, an architect and PhD in his humorous post, “The Church of St. George Jetson” (2012) observed that Paul Revere Williams, the architect of Guardian Angel Cathedral, “was a good stylist, and obviously a keen observer of fashionable architectural publications. He followed quickly on Walter Netsch’s widely published designs for the Cadet’s Chapel of the US Air Force Academy” (Schloeder).

The architectural design of the two places of worship show many similarities. Both stand as beacons of modern architecture and feature triangular stained-glass windows. The Cadet chapel features seventeen soaring spires; Guardian Angel Cathedral showcases twelve. The chapel at the Air Force Academy raises the spirits of the cadets and complements a campus that looks much like an airport. Though often overlooked, Guardian Angel Cathedral remains a place that lifts the spirits of those who

discover it. The Cathedral forms a fitting enclosure for amazing art by Edith and Isabel Piczec.

Guardian Angel Cathedral represents a style often identified as Modern, Space Age, or Googie. This style boasts sharp angles suggesting the aerodynamic design of a rocket ship. The Space Needle in Seattle, Dulles Airport in Washington D.C., and Williams' theme building at Los Angeles Airport constitute the most notable examples of this style. It also left its mark on everyday architecture like the space age theme of Sonic restaurants or the bright colors, golden arches, and upswept roofs of the original MacDonald's restaurants. The iconic "Welcome to Vegas" sign with its famous starburst pays allegiance to this style.

Modern or Googie architecture represented a brief, vibrantly optimistic period. Some critics consider it an aberration because of its limited impact and links to popular culture. Schloeder questioned "how far architects should go trying to speak to the age." He argued the design was dated, not a model for replication, and the A-frame architecture was too mechanical to carry the weight of "something intended to speak of the transcendent" (Schloeder 1).

Guardian Angel Cathedral can accommodate 1,100 congregants. Its A-frame triangular exterior gives it presence adjoining the dominating chocolate brown twin towers of Steve Wynn's hotel casino resort. The bold colorful mosaic of four Guardian Angels above its entrance welcomes visitors. Successive beams support amazing stained-glass windows depicting the stations of the cross. These dark dense windows mute the harsh glare of the desert sun.

Michael Garris, the lighting and sound engineer for the church, designed an indirect lighting system made up of extremely narrow and shallow troffers to augment this natural effect, giving the interior an overall light value of 15th candle power. Similar lighting backlights the mural behind the altar (Paul Revere Williams 1). These luminous sources fill the interior with a soft gentle light conducive to prayer and meditation.

Art

Religion, like art, lives in so far as it is performed.

Turner, *Ritual*, 85.

Years of collaboration and common beliefs about art and religion forged the aesthetic partnership of two sisters: Edith (1919-2014) and Isabel Piczec (1927-2016). They both worked in painting, murals, mosaics, and stained glass. Isabel became an internationally known physicist, recognized for her study of the Shroud of Turin. Monseigneur Weber, a friend of both artists, noted on Isabel's passing that "The unassuming sisters" saw their vocation as a "cultural and religious mission" to implant their authentic artwork on the soul of the observer (King).

The sisters' birthplace was in the town of Hatvan, Hungary. Their father, Zoltan, was an accomplished artist. The siblings displayed artistic talent at an early age, and graduated from the Academy of Fine Arts in Budapest. They fled the suppression of the Communist regime after World War II, first to Vienna and then to Rome. The two sisters won a contest in 1949 to create a mural for the Pontifical Bible Institute, an unprecedented honor for women artists. A Canadian bishop encouraged them to emigrate and they finally established their own studio in Los Angeles. Their works appear in over 390 buildings in seven countries. On Edith's death, *Angelus* writer,

Heather King, quoted Edith as saying, “The artist is creating visual representation to see the sacred in each of us, to show the love of God through art for the Church” (1).

Isabel’s obituary in *Dignity* related an experience that occurred while she was working on the art in the Guardian Angel Cathedral, Las Vegas. A young man approached her and asked how he could learn to paint large murals. She told him that you cannot learn it. It was a gift from God. “Yes”, I (Isabel) said, “but remember, it is a gift that comes with a very high price. Once you are born with this gift, your life and your choices are all set” (Nouwen 1).

Mystical Realism

German sociologist, Niklas Luhmann, believed that religion regulated the relationships of people with the world in a comprehensive and ultimate meaning (Cipriani 242). The Piczek sisters interpreted reality through mysticism. They understood believers can attain knowledge into the mysteries of faith, through intuition and communication with the Divine. Their philosophy of religion permeated their art. They believed divine entities are not accurately described in terms of space, matter, time, or causation. Realism to them meant art informed by their philosophy (Piczek 1).

The figures in Isabel’s windows remind the viewer of the somewhat abstract style found in adventure comics. Her human portrayal of “Flesh” provides an excellent example of how an artist strips down the essential elements of a figure to “amplify through simplification” (McCloud 30). She exposes the carnal aspects of humanity as hulking, hunched, and hateful, with a beetled brow and a smirk of self-satisfaction.

The best description of the art movement known as Mystical Realism comes from an article published by Russian existential Orthodox Christian philosopher Nikolai Alexandrovich Berdyaev (1874-1948) in his article, “Decadentism and Mystical Realism” (1904). The article contrasts decadentism, an artistic movement centered in Western Europe that followed an aesthetic of excess and artificiality, with the mystic realism of Eastern Europe which holds that entities are not accurately described in terms of space, matter, time, or causation but only in relationship to God’s divine plan.

Berdyaev explains mystical realism through a devastating critique of decadentism. He described decadentism as a bad joke, an illness of spirit that cannot distinguish the light of the moon from that of a streetlamp. Mystical realism, on the other hand, is a joyful encounter, healthy thought striving for a new way of being. Decadentism is vulgar. It confuses mysticism with aestheticism. Mystical realism bridges the gap from aestheticism to accepted and experienced beauty. Most importantly, decadentism is an expression of love without object. It does not unite with the divine. Mystical realism is love with an object uniting man with God through the incarnation of the word into flesh (Berdyaev 8).

The sisters’ art takes one from fragmentation and division to unity and synthesis. It is centered on man and his connection to God through Christ. It features intuition, light, knowledge, and spiritual mystery. It portrays harsh figures like power, flesh, and despair and explores the abstract reality of the seven sacraments. It celebrates the victory of Christ and man’s place in the new creation. This new age of man identifies Christ as the founder of Christianity and a monumental unsurpassed image of man. The art presents worshipers with a well-ordered unity with everything overlapping, and simultaneously a paradoxical structure. Somehow it works. The artists noted that “the

destiny of man is happiness – your happiness and is created within you, by you” (Guardian Angel Church Bulletin 9 April 2017).

Entrance Mosaic - Edith Piczek was the creative artist on the 1600 square foot mosaic over the main entrance to the Guardian Angel Cathedral. The Favret studio in Pietrasanta, Italy did much of the stonework. Sandra Hemmerlein in her blog, *Avoiding Regret* (2016), compared the figures on the mural to comic book super heroes. Below the eye of God, rays of grace and power fall upon a large guardian angel, a strong compelling companion for man, ready for action with his hair flowing behind him. One hand reaches toward God and the other touches the world of man signifying a communication between God and man through angels. Three smaller angels, portrayed below, signify prayer, penance, and peace. The angel of penance stretches out his hand asking man to express remorse. The angel of prayer kneels ready to transmit man’s prayers to God and accept His reply. The angel of peace is the guardian and companion of man in the quest for peace, inspiration, and joy. The four angels stand ready to help and encourage pilgrims on their journey to eternal life and happiness.

Stained Glass - Isabel Piczek was the lead artist for these astonishing stained-glass Stations of the Cross located in the twelve triangular niches of the church. Observe the thick rough lead that binds the flat broken pieces of glass together. Her stained glass features a severe and spartan approach to the human figure. They are high in quality and imbued with pathos and strong personality, entirely at home within the building. Isabel gave great attention to composition, content, and impact, including gestures and facial expressions of the characters in the various scenes (Schloeder 1).

The glass pieces of the window are bound together in a puzzle of mixed stories spanning both Testaments. There is a variation in color, figure size, and inferred animation. Viewers must learn to read them like the frames of a graphic novel. When one employs this method, a story emerges whether it is “stained-glass windows showing biblical scenes in order, to Monet’s series painting, to your car owner’s manual” (McCloud 20). In the case of the windows, the viewer’s first impression is meaningful, but deeper meditation reveals a parsing of mysteries both historical and personal. What is presented is impressive, but what is inferred is elusive. The closest comparison to Isabel’s work is the stained glass windows of Russian born artist Marc Chagall (1887-1985) that decorate the cathedrals of Europe.

The humility of these two women artists is a reflection of their belief in Mystic Realism. According to Max Weber in *The Sociology of Religion* (1923), “The mystic is constantly striving to escape from activity in the world back to the quietness and inwardness of the god” (H.2.f). Mystical knowledge lies not in facts and doctrines, but in the perception of the overall meaning of the world (H.2.c). The function of the artist is to lead the viewer on a journey toward a unified understanding of the world based on the conviction that Christian brotherly love leads to unity in all things. The Piczek sisters imbued their art with this conception of community.

Those who visit this church cannot ignore the impressive and unusual windows. The lines of these artworks involve the minimal cleanliness of “cartoons,” an artist’s simple preliminary drawing for a painting or tapestry. A reoccurring theme of “choice” runs through the stained glass windows. Small scenes emerge almost as flashes of memory within many of the windows that portray Old Testament Biblical characters making difficult decisions. In contrast to traditional portrayals, the startling glass

creations provide a mystery for contemplation. A tacit invitation permeates each window inviting the viewer's internal response, an inducement to reflect and ponder. As a result, the impact of these artworks comes from an appreciation of the artistic composition the viewer sees, but also the response of one's own conscience confronting his or her moral compass.

Introduction To The Message

In order to fully understand the message of the Piczec sisters, it helps to view the murals, mosaics, and stained glass windows of the Cathedral in a certain sequence. First, grow accustomed to the explosion of light and color that radiates throughout the Cathedral. Then proceed toward the main altar and investigate the stained glass windows in the side chapels. Second, start with Station I on the right side of the main altar and follow the Stations of the Cross to the back, crossing to the left side of the Cathedral, and returning to the front. This circuit generates energy that finds its fulfillment in the third part of the sequence, the North and South side sanctuary windows and the altar mural. Depart, down the main aisle, filled with energy, hope, and guidance.

The Marian Chapel - The bright airy Marian Chapel to the left of the main altar features a beautiful wall of small stained glass windows cataloging specific events in Mary's life, such as the Annunciation and the Marriage Feast at Cana. For many, this is a special place dedicated to reflection on Mary, the mother of Christ. Above a small altar, is a stunning mosaic depicting a figure of Jesus as a young boy standing before Mary. Both figures welcome visitors with their arms extended wide in welcome and in sharing, in altruism as well as invitation. Many Christians find solace in meditating on Mary as a conduit to the Divine, especially since she experienced the trials and distresses of normal family life. There is comfort, consolation, and welcome here.

The Blessed Sacrament Chapel - To the right of the main altar the Blessed Sacrament is kept in a tabernacle in this chapel. The mosaic in back of the altar features Christ with his arms outstretched surrounded on both sides by angels and humans who stand and kneel. The small stained glass windows decorating the chapel wall depict the corporal works of mercy outlined in Matthew 25:36-46. "I needed clothes and you clothed me, I was sick and you looked after me, I was in prison and you came to visit me" (The Holy Bible). Additional small windows illustrate the virtues of feeding the hungry and caring for the sick. A reoccurring theme in the background of each window features people shunning or ignoring those in need, a deference to lessons often portrayed in Medieval stained glass windows for those who could not read.

The Way of the Cross

Christian visitors to Jerusalem, after its conquest by Muslims, retraced fourteen events of Christ's last day on earth in a mini-pilgrimage called the Via Dolorosa. The Franciscans assumed responsibility for this devotion in the 12th century. It is based on tradition. Only eight of the fourteen stations have scriptural foundations. Today it forms part of Catholic, Anglican, Lutheran, and Methodist liturgy. This devotional may occur

inside or outside. It features prayers, meditation, and a short lesson at numbered stations, most often marked by icons or images. It usually takes place on the Fridays of Lent. The stained glass windows of Guardian Angel Cathedral portray a unique version of the Stations of the Cross, as is the artist's occasional placing of two stations in one window.

Some worshipers revere a more traditional expression of Christ's last hours, which focuses on His heart-rending sacrifice suffering incredible pain, agony, and humiliation as the price of Redemption. They may find it difficult to accept the Piczek sisters interpretation of this devotion. The artists do not deny the torture of Christ's last hours. They focus on His incredible determination to offer horrible suffering as a gift of love and deliverance for all mankind. In these windows, Christ sees beyond the sacrifice He must make, and displays the consummate example of love, strength, and courage.

Station I –“Look at the Man,” is a startling contrast to the traditional version. Isabel Piczek replaced a scene of Jesus condemned to death with a striking masculine depiction of Jesus. He is strong, bold, and surrounded by the red flames of love, emerging from the dark world of primitive creation. A jagged figure of Human Weakness washes His hands, an homage to Pontius Pilate. Evil Will, Dark Mind, and the confined angular caricature of Flesh stand in condemnation of the promised Messiah. The hand of God in the dark apex of the window gives humankind the Ten Commandments held by Moses and His Son, symbolizing the connectedness of the Old and New Testament.

Station II - “Freedom and Obedience,” covers the left and top two-thirds of this two-part window. In the traditional version of this station, Jesus is given his cross. In Piczek's rendition, a flaming red Jesus accepts the cross, the result of His choice to obey God's will. The artist portrays Jesus as a super-man, with powers beyond the universe. Two false types of obedience, fear and mechanical, stand forlorn in the background. A barefoot shepherd, Moses, appears in the lower left hand corner of the window. He contemplates the burning bush recorded in the book of Exodus. This phenomenon attracts Moses and a voice informs him that God designated him to lead the tribe of Israel out of Egypt. Moses' obedience is a harbinger to that of Christ.

Station III -“Freedom and Love” is traditionally named Jesus Falls the First Time. It occupies the bottom right third of the window, separated by a blue arrow from the previous station. Bright reds and orange colors call attention to Jesus, His face filled with love, holding on to the cross after falling, radiating acceptance. Adam and Eve stand above Christ, symbols of man's rejection of God's will. Three evil villains emerge from a dark cave to push Jesus down. They represent Pride, Pomp, and Self, products of man's darkened intellect after the fall from God's grace.

Station IV – “The Woman of Hope” is significantly different from the traditional version, Jesus Meets His Mother. Mary walks with Jesus as he drags his cross. Her radiant face expresses strength and hope for Him and all mankind. In the apex of the triangular window, a woman crushes the head of a snake, a symbol of her power over evil (Genesis 3:15). Behind her there is a depiction of the Ten Commandments linking this scene to the Old Testament. Malevolent caricatures of Political Power, Hypocrisy, Anger, Despair and Mockery surround mother and son. The next window also contains two stations.

Station V - “Human Oneness,” traditionally depicts Simon of Cyrene helping Jesus carry his cross. In the lower left-hand corner of the window, Simon embraces

Jesus and the cross, a symbol of human oneness. The rough-hewn figure of Flesh mocks Simon's sacrifice with a sardonic smile. Cain and Abel appear in the lower right hand corner of the station, portraying the Old Testament presence of strife in mankind.

Station VI - "The Mystery of Man," is conventionally labeled, Veronica wipes the face of Jesus. There is no mention of this incident in the scriptures, but tradition has it that this woman of Jerusalem, moved by Christ's suffering, used her veil to wipe His face. A miracle occurred as a result of her kindness when her veil bore an image of Christ's face. In Piczek's version, Veronica kneels at the feet of Jesus revealing that human nature bears the imprint of God's face. The huge haunting eyes of God surrounded by a triangle form the centerpiece of the window. A small insert on the bottom right of the window portrays the ancient story of the widow Ruth, who chooses hard labor in the fields to care for her Jewish mother-in-law, Naomi, even though Ruth does not share her ardent faith. As a result of her humble sacrifices, Ruth meets and subsequently marries Boaz, accepts his faith, and thereby provides the lineage to David, and eventually Christ.

Station VII - "The Future," conventionally known as Christ's second fall, shows man achieving a great forward thrust into impending times. Resistance to this path begins in the apex of the window with idolaters worshiping a Golden Calf, a symbol of sins of the flesh. A pyramid of stylized faces oppose Christ's movement toward wholeness: Gluttony pouring out wine, Brutality, Vanity kissing own image in mirror, and Laziness skulking in the background. Jesus, pictured at bottom of the window, has fallen under the burden of atoning for man's sins, yet His face mirrors understanding as he offers his mercy.

Station VIII - "The True Mother," formerly called Jesus meets the women of Jerusalem, reflects a tender and powerful concept of motherhood. The focal point of the window is Mary, who offers up her son to God. Christ is crowned with thorns and holds on to his cross. He blesses a group of lamenting women. An insert on the right portrays the Old Testament fate of two women who consider dividing a newborn baby under the judgment of Solomon. This serves as an example of enduring love and sacrifice. The two stations in the next window depict compelling versions of reality.

Station IX - "Peace," is also known as Jesus falls the third time. The lower left-hand side of the window presents a fallen Christ. He kisses the earth as a sign of accord with God's creation. In the background stand an assembly of assorted accusers and tormentors exhibiting deterrents to Christ's message of salvation: Wealth clutches his ill-gotten gains, Power wields a sword, and medals and ribbons bedeck Status.

Station X, "Poverty" - The upper right hand side of the window shows Christ stripped of his garments. Greed steals His cloak. Misery begs for His possessions. Anger and Hate fight each other over His garments. Behind Jesus, the Ten Commandments envelop the unfinished tower of Babel indicating the extent of God's plan of salvation. David battles Goliath in the lower right hand corner, referring to Christ's monumental struggle to overcome the negative forces of the outside world.

Station XI - "The Birth of a New Humanity," emphasizes Christ's sacrifice. The small inset of Abraham intending to offer his son, Isaac, reemphasizes the Old Testament surrender of the son to his father. Three stark, darkly evil forces of man's nature depicted in previous windows, Pride, the World, and Flesh, hammers in hand, nail Christ to the cross while Mary, John, and Mary Magdalen stand in silent witness.

Station XII - "The Victory and the New Cosmos," occupies the left two-thirds of this dual window. Piczek gives a new optimistic slant to a station that illustrates Christ Victorious surrounded by bright circles of orange rent by rays of yellow, a New Cosmos. He restores order to the universe welcoming the good thief into his heavenly reward. The bad thief, his hand nailed to the commandments he defied, lies sprawled below Christ. Above the bad thief is a depiction of the blinded Samson, from the Old Testament, who also sacrificed his life bringing down the Temple upon the Philistines.

Station XIII – Isabel Piczek shows so much more in her poignant station "The Universal Mother," than in the traditional representation of Jesus taken down from the cross. The artist focuses on Mary. She welcomes the lifeless body of her son who sacrificed himself for all. Mary extends her arms in acceptance of His sacrifice. Above her, Moses holds the Holy of Holies, a sign of God's covenant with man. Danny Thomas, comedian and long-time Las Vegas performer and his wife, donated this window.

Station XIV - "The Sealed Energy," conventionally called Jesus is laid in the tomb. Gold and white energy emanates from inside Christ's tomb. The center of the picture is the outline of a large gold baptismal font. Christ rests on a red sarcophagus symbolizing baptized mankind. The white figure above the True Man demonstrates emerging intense feelings of hope and resurrection. The eschatological image of the Church in the form of Mary appears above Christ. At the top of window, Noah's Ark represents the future church ringed with rainbows of promise.

The Promise Fulfilled

Having completed the devotional circuit of the stations, one approaches the sanctuary area of the church which features two adjacent side windows that frame a brilliantly colored central mural titled the Final Beginning.

The South Sanctuary Window, "The Cosmic Christ" - This window, that portrays "Cosmic Christ, Lord of the Universe" has a special connection to those who live in and visit Las Vegas, Nevada. Man, on the left, is drawn in two different directions, being pulled toward the distractions of earthly pleasures and drawn to accompany Mary in recognizing the compelling care of Christ. Figures symbolizing different occupations embellish the center of the window including a laborer, scientist, farmer, nurse, teacher, musician, and poet. The lower section of the window depicts famous past and present Las Vegas casinos including the Hilton, the Stardust, and the Stratosphere. At the lower right the harlequin, bearing the masks of comedy and tragedy symbolizing the passing quality of earthly life, infers that the façade of reality asks challenging questions of all mankind regardless of profession or geographic location.

The North Sanctuary Window, "The Christ of Surrender" - A white shroud loosely drapes from the Risen Christ's shoulders, demonstrating his inclusive offering to all mankind and unites the complex theme of this window. Christ's arms extend wide in surrender. Two streams come from His side, one of water and one of blood symbolizing two types of sacraments. On the right side, the blue stream represents the sacraments of the priesthood of man with three figures portraying Baptism, Confirmation, and Holy Orders. The red stream denotes the sacraments of blood including the sacraments that refer to death in the Sacrament for the Sick, with penance for Reconciliation, with life in

Matrimony, and with love in sharing the Eucharist. At the base of the window a blue partial globe exhibits a simple connection to the earth and its inhabitants.

Sanctuary Mural - The Stations of the Cross lead to a large mural, The Final Beginning, over the altar on the rear chancel wall. The images over the main altar are far from the figures adorning traditional Catholic Churches. In this mural souls ascend with Christ at the Resurrection. Bright, cosmic, energy-filled triangles of light and dark create a soaring, galactic world. The central, risen body of Christ bursts forth as a spirit engulfed in flame at the center, arms stretching skyward in recognition of the redeemed and recreated world of man. A second figure below Christ represents risen mankind, whose salvation is forever intertwined with Christ's Resurrection.

The mural shows man's forward run to life. It follows the upward thrust of the station windows joined by the sanctuary windows, culminating in the Resurrection. A red and orange fireball of light surrounds Christ who dominates the center with arms outstretched to the corners of the composition. Triangles of energy from the power of the Holy Spirit surround him. Christ's five wounds give off light. Groups of human figures surrounding Christ portray the senses that express perception and love. All of these groups are parts of Christ's Mystical Body and have compelling roles in fulfilling the vision of Redemption. Each participant in Christ's mission will belong primarily to one of these groups. On the left in front of a modernistic eye-shaped background, the top two figures in blue focus carefully, typifying vision and its extension, Truth. Below these, two figures in magenta reach out in a digital milieu, searching for Knowledge. On the top right the artist pictured a couple in blue and red before a stylized mouth personifying taste and its extension, Wisdom. Below, in bright green, the artist painted a simple large ear encompassing a couple demonstrating hearing and its extension, Counsel. On the bottom right in earth tones, the artist features an outline of the human face emphasizing the nasal area to present smell, the extension of Justice. The mural puts everything together, the new cosmos, spiritualized man, angelic powers, and the material universe.

Conclusion

We could not even survive without our guardian angels.

Elizabeth Kubler-Ross <www.thoughtco>

The authors used the tools of participant observation to discover the mysteries and beauty of Guardian Angel Cathedral. They attended services, examined relevant theory, analyzed documents, and interviewed clergy and parishioners. They discovered that Guardian Angel Cathedral embraces a unique community bound together by sacred rituals, symbols, beliefs, organizational structures, and inspirational art. Functional sociologists emphasize that the architecture and art of the sacred binds visitors and parishioners into a unique community. The soaring A-frames of the Cathedral's architecture signal congregants this is a holy place in a city noted for the profane. The murals, mosaics, and stained glass windows instruct pilgrims on how to treat each other, and describe a unifying plan of salvation.

The community occupying this beautiful sacred space is unique in that 75 to 90 percent of the people attending services are visitors. The church embraces the message that these visitors are pilgrims on a spiritual journey. Those attending services introduce themselves to one another. They meet Roman Catholics from all over the world. The celebrant mentions this at the final blessing of the service and it is reinforced

in the parish bulletin. The parish expects much from its base of casino workers and senior citizens, and they respond.

Singing together is an expression of unity. The music during the liturgy is always outstanding, something visitors will remember when they return home. The church boasts a beautiful Allen organ. The timbre and ambience of the sound system is excellent. The unique construction of the cathedral does not deter the quality of vocal or orchestral music; rather, it seems to project it evenly throughout the building.

The Cathedral Bulletin informs worshipers of the rituals and rites available during the week. It gives the times and days for devotionals like Novenas, Perpetual Help Devotions, and Holy Hour. It lists times for the sacrament of penance (reconciliation). George Herbert Mead (1863-1931), a symbolic interactionist judged religion by its good works. He wanted no part of a religion that, “diverts attention to a supernatural realm, which consoles and comforts psychologically without altering the objective realities of human existence” (Reck 70). Mead would have approved of the pragmatic works of charity listed in the bulletin for diocesan charities, marriage counseling, victims of sexual abuse, and a seniors social group.

The art and architecture of Guardian Angel Cathedral in Las Vegas provides opportunities for discovery, appreciation, and challenge. Marvel at the concept of angels on the strip, popular culture references to casinos in stained glass, and the beauty of the art of the Piczek sisters. Max Weber defined mysticism as the belief that one attains union with the Deity or the Absolute through contemplation and self-surrender. Isabel and Edith Piczek described their work as Mystic Realism. Mystic in the sense of a religious experience and realistic as opposed to abstract.

Two resourceful and incredibly talented women provide the art for this place of worship. Their total dedication to their Christian faith actually drove them to delve deeply into the total perception of “church” or perhaps “faith.” Each individual window tells its own story of Christ’s final journey; yet, taken together they actually impel the viewer deeper into the positive concept of Redemption. The entire experience includes the role of each participant in the exuberant challenge of the whole. As worshipers progress forward, the message becomes simpler, more potent, and intensely personal.

At the completion of this circular rubric, participants find the two sanctuary windows that refer to the basics of faith. One presents the sacraments as God’s gifts, while the other explores one’s personal opportunities to share talents with others. The central mural behind the altar reduces the message even more, representing a profound and multifaceted meaning to each of the five senses of humankind in service to the deity. The mural itself displays a cosmic motion, drawing all of the artwork together from the back of the cathedral to the front in a complex yet simple message of devotion.

This sense of movement caroms once again and sends its energy out in those who participate even if they fail to comprehend the total message the Piczeks created. Most of the people who attend services here are visitors. Each Mass ends with a special blessing for them as departing pilgrims. “On your journey home, remember, life is a journey; you decide to be a pilgrim or a tourist. Upon entering this sacred place, you have become a pilgrim. May the blessings of the Journey remain with you always” (Guardian Angel Cathedral Bulletin 14 April 2019).

As the vitality of the charismatic power of devotion to carries visitors down the main aisle and out the church doors, they pass outside under Edith Piczek’s mosaic

above the entryway which features angelic companions who will aid the pilgrims on their way. The large central figure conveys a simple linkage between earthly reality and celestial presence. Three smaller sentinels remind worshipers to seek reconciliation, communication, and peace of soul. These are truly the Guardian Angels who accompany mankind on one's pilgrimage of faith, who provide inspiration, communication, and joy.

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Trends in Nebraska Economic Growth

By

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Slide 1

OBJECTIVES OF THE STUDY

The main objective of the study is to examine the trends in Economic Growth for Nebraska

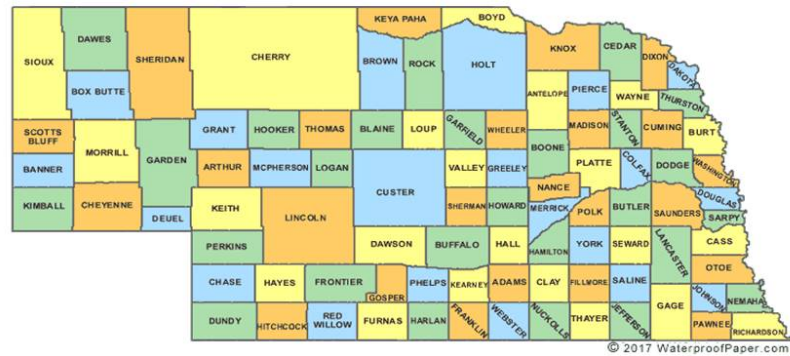
Slide 2

Sections

- Section 1 - Brief Profile of Nebraska
- Section 2 - Review of Literature
- Section 3 - Methodology, Data and Variables
- Section 4 - Results and Analysis

Slide 3

Brief Profile of Nebraska



Slide 4

Nebraska Characteristics

- ❖ In the late 1600's French fur traders first visited Nebraska and fought with Spain over control of the territory.
- ❖ In 1803 the United States eventually obtained part of the area through the Louisiana purchase. Agriculture is the largest sector in Nebraska, and it is a major producer of beef, pork, corn (maize), soybeans, and sorghum.
- ❖ The other important economic sectors include freight transport (by rail and truck), manufacturing, telecommunications, information technology, and insurance. (Nebraska-Wikipedia). Much of the nation's rail traffic passes through the Union Pacific's giant rail yards in the state.

Slide 5

Nebraska Statistics

2018 Population Estimate (as of July 1, 2018)	1,929,268
Median Age	36.3
Number of Companies	164,089
Educational Attainment: Percent high school graduate or higher	90.9%
Count of Governments	2,581
Total housing units	824,176
Median Household Income	56,675
Foreign Born Population	130,660
Individuals below poverty level	12.0%

Slide 6

Economic Data

Year	GDP	Personal Inc.	Personal Inc. per Capita	Total Trade
	Millions of \$			
2010	\$91,813	\$74,787	\$40,878	\$5,820,958,718
2011	99,613	83,474	45,353	7,487,579,923
2012	102,269	86,118	46,467	7,454,953,988
2013	107,604	86,683	46,468	7,392,988,737
2014	111,331	91,845	48,866	7,889,684,505
2015	115,270	95,455	50,465	6,663,666,425
2016	116,283	94,731	49,703	6,381,339,479
2017	119,588	97,557	50,875	7,206,415,361

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Nebraska Trade Indicators

Year	EP	EPR	IP	IPR
2010	178	103	111	104
2011	174	103	101	105
2012	170	103	106	104
2013	180	102	115	103
2014	174	101	105	102
2015	176	102	113	104
2016	174	102	119	103
2017	171	101	124	103

Source: USA Trade Online, 2019

EP = No. of Export Partners
EPR = No. of Export Products (4-digit NAICS)
IP = No. of Import Partners
IPR = No. of Import Products (4-digit NAICS)

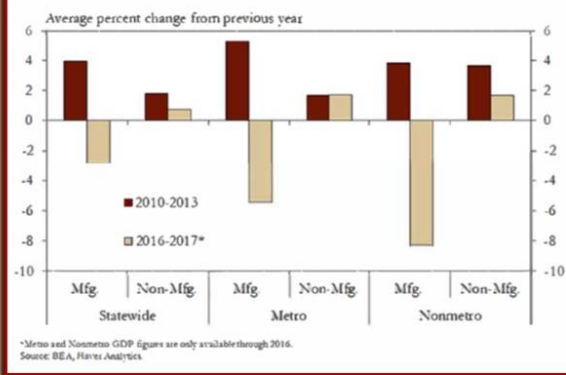
Slide 8

Slide 9

Section 2 - Review of Literature

Only two studies were reviewed
University of Nebraska Economic Research
and the Nebraska Business Forecast Council
Policy insights from the Kansas Fed are presented

Chart 3: GDP Growth by Industry



Slide 10, Kansas Fed Study

Section 3 – Methodology

Growth Rates were calculated by using the simple semi Log model

$$\text{Log } Y = a + b T$$

Where Log Y is the dependent variable and T is the time trend.

In order to study the contribution of the different sectors

$$\text{Log GDP} = a_1 + a_2 \text{Log Man} + a_3 \text{Log Agr} + a_4 \text{Log Ser} + a_5 \text{Ex} + U$$

GDP = Gross domestic Product

Man = Manufacturing sector output

Agr = Agricultural sector output

Se r = Service sector output

Ex = Exports

Data

The main sources of data are

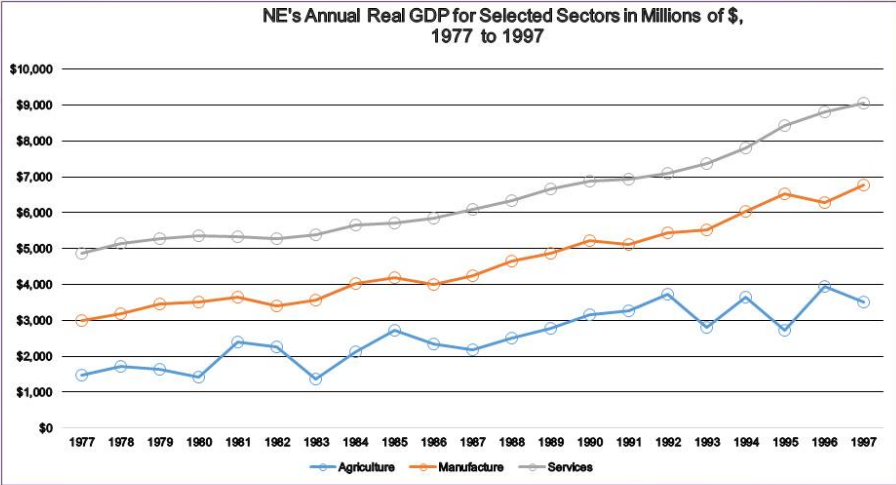
Bureau of Economic Analysis,
Regional Economic Analysis, USDOC and
Bureau of the Census

Results and Analysis

In this section the results obtained from using the various tools mentioned in the methodology section are presented and analyzed

Slide 13

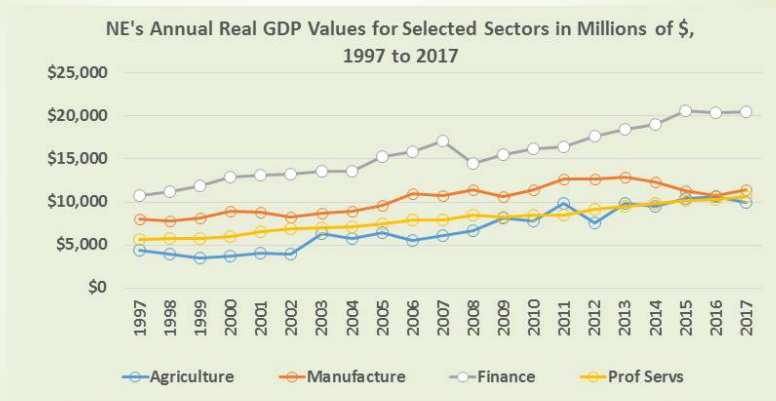
Chart 6



Services depicted higher and consistent increases in Agriculture followed by Manufacturing sector and then Agriculture sector.

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Chart 7



Slide 15

Table 4 - Selected Industry Growth Rates for 1977 to 1997

Variable	Growth Rate (%)	R ²	t-value
GDP	1.0	0.9931	36.9
Agriculture	2.5	0.9454	12.6
Manufacture	1.0	0.8790	8.0
Finance	1.3	0.9709	17.7
Prof Servs	1.4	0.9917	33.5

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Table 5 - Selected Industry Annual Growth Rates, 1997-2017

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Variable	Growth Rate	R2	t-value
GDP	1.1	0.9728	18.3
Agriculture	2.0	0.8659	7.5
Manufacture	1.7	0.9869	26.7
Services	1.3	0.9771	20.00

Table 6 - Growth rates of the various sectors from the regression equation

	Agriculture	Manufacturing	Services	Finance	Prof. Services
1977-1997	.0817 (3.2926)	-.0200 (.1846)	.7854 (5.9887)		
1997-2017	.0862 (4.3474)	.1187 (3.7082)		.2332 (4.4379)	.2685 (3.9486)

(Values in parentheses refer to t-Stat)

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Analysis of Tables 4, 5 and 6

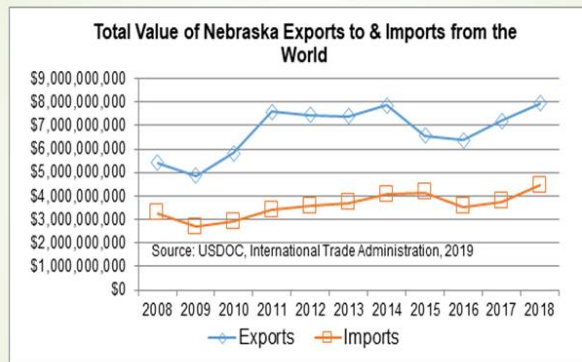
Agriculture did not depict much difference in the growth rates.

For the Manufacturing sector there has been some improvement in the fact that declines from the earlier period have transformed to positive growth rates. Services depicted significant growth rate in 1977-1997.

For the period 1997-2017, the data for services was available as Finance and Professional services and hence were considered in the equation as separate. Except for Manufacturing sector in 1997-2017 all the coefficients were significant. R2 yielded high values of .996 and .943 for the periods 1977-1997 and 1997-2017 respectively.

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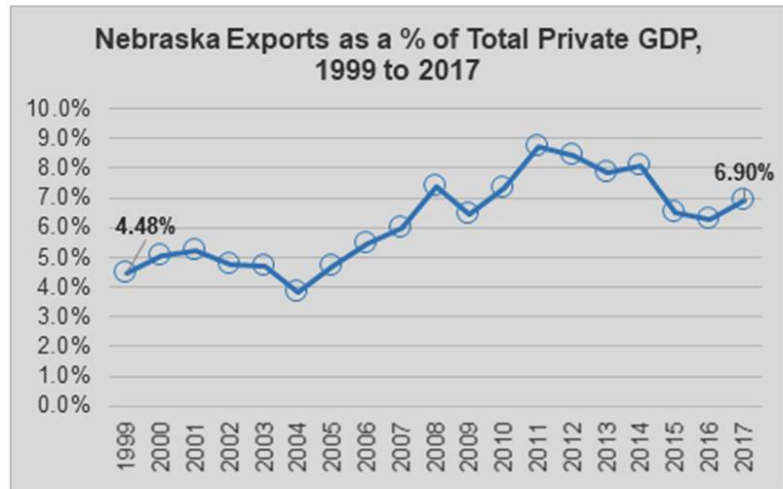
Chart 8



Nebraska has a favorable balance of trade with exports much higher than imports

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Chart 9



Slide 21

Conclusions

As pointed out in one study “One of the signs for a strong economy is low unemployment rate. However, the two factors of tightening labor markets and a weak agricultural economy may limit the potential for maintaining the growth of previous years. As the prices for most agricultural commodities in Nebraska have remained low industries connected to agriculture such as manufacturing have weakened over the past two years. Limited supply of labor had a positive impact on workers who enjoyed higher wages and these wage gains in the state have outpaced recent increase in the average prices of goods and services. Hence Nebraska households appear to be in a relatively stronger financial position with solid job opportunities”

Slide 22



THANK YOU

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The Giant Salad Bowl: Gender Diversity in America

Dr. Kathleen Kreamelmeyer

Ball State University

Let's face it, boys and girls are treated differently! When you look at our schools, boys are given more attention, both positive and negative attention, and this tends to be the case whether the teacher is a male or a female. Teachers call on males more frequently. They tend to be more patient with males and of course they tend to yell at males more often also. Gender is a most interesting diversity category because after all, this is the underrepresented MAJORITY. There are more females and yet they tend to be the gender that is discriminated against.

A quick riddle may help illustrate the way the two genders are viewed or even how they view themselves. I have used this for years in my classes and the results never cease to amaze me. A father and his son are in a car on the highway when a horrible accident occurs. The father is killed instantly and the son is in very bad shape. The boy is airlifted to a hospital and taken to surgery as soon as he arrives. The surgeon walks in, takes one look at the boy and says, "I can't possibly operate on this boy. He is my son!" How can this be?

Over the years I have had many answers to this riddle. "The doctor is the boy's step-father" is probably the most common response. "The doctor is gay" is another theory that is sometimes mentioned. The answer is actually pretty obvious - the doctor is the boy's mother. We are so programmed to believe that a physician must be a male. One semester I had a male who had a girlfriend who was in medical school. She lived with three other female medical students. He called her just after class to give her the riddle and amazingly it actually stumped the group for nearly five minutes! Again, these are females actually studying to be doctors.

A certain reporter had visited the country of Kuwait just before the initial war in the Persian Gulf in the early 1990s. He was asked by his newspaper to return after the war had ended, a half dozen or so years later, to examine what changes had occurred. The writer was almost immediately struck by the fact that instead of the traditional sight of women walking a few paces behind their husbands as a show of respect, they were suddenly walking in front of their husbands. He did not know what to make of this strange phenomenon. Finally, after a few days of wondering, he just asked one of the citizens what was going on. Without any emotion whatsoever, the man just told him, as a matter of fact - "Land Mines." In other words, the women were being used as human shields, just as a matter of routine.

This is hardly an isolated incident. Without getting into great detail in this article, Female Genital Mutilation (often known as "FGM") is a somewhat common practice in some parts of the world, particularly Africa. This is the occurrence of the clitoris being removed from the female, often in barbaric conditions (with broken glass, etc.). The idea is that the woman is less likely to cheat on her husband if there is no pleasure involved in the act of sex. I once heard an African man respond to a question about this practice in his country by saying, "Let me ask you a question, when you leave your house, do you lock the door?"

Of course, to be perfectly fair, is it not sometimes an advantage to be a female? How about women who flirt with a police officer to get out of a speeding ticket? Or a female who turns on the tears to get what she wants? The female is often viewed as the "weaker sex" or even referred to in this manner, but the facts do not support this. Women, on average, out-live their male counterparts by a wide margin. For example, for every 100 females who are born, there are 105 males born. By age 65, for every 100 females, there are only 69 males left. By age 85, for every 100 females, there are only 53 males left! Which one is really the "weaker sex?"

The bias against women can be very blatant, but often it is quite subtle. For instance, I know that the mechanic always gives my husband a better deal when our car needs service than he does me. My husband does not have a great interest in cars and probably does not know any more about car maintenance than I do, but the mechanic assumes that he does and never seems to suggest extra things that should be fixed like he does when I take the car in alone.

When a school hires a new teacher, sometimes a young male just out of college will be viewed as a more desirable candidate than a young female for the simple reason that he will not have to quit teaching to start a family, while the female often will. A potential employer is not allowed to ask one's plans of having children, but sometimes this decision is made behind the scenes.

Males and females are simply different. There are plenty of examples that would illustrate this point. When it comes to reading, boys tend to be the more reluctant readers. As a result, teachers should look for ways to make stories more enjoyable. Here is an issue right off the top. Boys want to read books about other boys. They want to watch movies where the main character is a boy also, and this actually continues into adulthood. Girls do not seem to care - they tend to enjoy reading and will pick up a book where the main character is a boy just as easily as if the main character is a girl, but this is just not the case with boys. This is true even in primary books. Boys want to read about a male giraffe or a male dinosaur or a male lion. They are much less enthused to read a story about Lindsay the Tiger or Laurel the German Shepherd.

We are finally beginning to see more women being portrayed in books in a role other than the "big three" (teacher, secretary, or nurse). It was not at all that long ago when children's books never had a female (or a minority) in the role of a physician or an attorney or a professor.

Sexual Harassment is a phrase that is sure to get people exercised. In these situations, there is normally some sort of power difference. That is, Boss and his secretary or a Professor and his student. It could be, "Sleep with me and I will give you a promotion" or "Sleep with me and I will give you a passing grade." It could of course be a negative consequence as well such as, "Sleep with me or I will fire you" or "Sleep with me or I will fail you." There does have to be a power difference, otherwise, how can someone harass another if there is nothing to hold over the person? Now the real interesting part is when it is the other way around - as in a female harassing a man. Can it happen?

Sure, why not? The only difference might be, would that man complain? Would he feel embarrassed to even go in and say anything about this sexual advance by a female boss? Stereotypes continue to be at play, even in these unfortunate situations.

Equal pay for equal work. A few years ago, there was a huge issue at some of the professional tennis tournaments. The men were being paid more than the females and many people, including some men, spoke out about the issue and for the most part, the rules were changed so that men and women players began to receive the same pay. There is of course an obvious problem here. Men regularly play a best-of-five match while women generally play a best-of-three. In other words, a women's match could be, and sometimes is, over very rapidly. Some of the early round matches only go two sets and are completed in less than an hour or even half an hour. Some of the men's matches have been known to go the full five sets and can go on for hours and hours. This is an issue that did not seem to be addressed. It is one thing when men and women really are doing the same work and getting different pay, it is quite another thing when women, or any other underrepresented group are given special treatment. This is when women can be viewed as needing special or extra assistance to reach their goals and fuels the stereotype that often exists, that women are in fact the weaker sex.

Environmental Attitudes of Generation Z

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Environmental Attitudes of Generation Z

Some say Generation Z is wasting no time letting the world know they have arrived with an agenda in hand. At the top of their list is climate change (Kippon 2017; Patel 2018), but what about the litter and pollution comprised mostly of plastic in their community? There is nil data on this. Young people-adolescents are responsible for most of the littering. Most litterers are between the ages of 16 to 24 years (Don't Mess with Texas, 2017). Many of these Gen Z's are in this age group. Littering is a major behavioral problem in Texas and everywhere on the planet. Millions of pieces of litter end up polluting the highways and waterways.

Who are these Gen. Z's? They are humans born between 1997 and 2010 and are digital natives. There are about 60 million of them in the United States. This means, they have always had technology and do not know life without it.

According to business experts, Gen Z isn't taking climate change threats lightly. Gen Z ranked climate change at the top of their issues according to a 2016 global study by Masdar. In addition, Gen Z respondents ranked climate change as the greatest challenge "in the next decade" — even greater than the economy, terrorism, unemployment or poverty. Gen Z around the world knows it is a problem, although they have no answers or ideas on how to manage locally or globally. They do not like it and protest some, but they can do a lot more in their communities by changing their behavior, since they are responsible for most of the litter.

This research project's aim was to try to change the behavior of the adolescents with the overarching goal of to increase teacher and student knowledge and skills on watershed ecology, and enhance watershed environmental awareness with stewardship. The 2-MEV (Major Environmental Values) Survey was selected for the project, because it has been validated by previous environmental attitudes research (Bogner, F.X. Et al, 2015). There were 99 high school and undergraduate respondents for the pre-survey with 98 subjects completing it.

Pre-Survey Spring 2019 Snapshot of Preliminary Data Results

The MEV-2 survey questions and the Likert scale used are as follows:

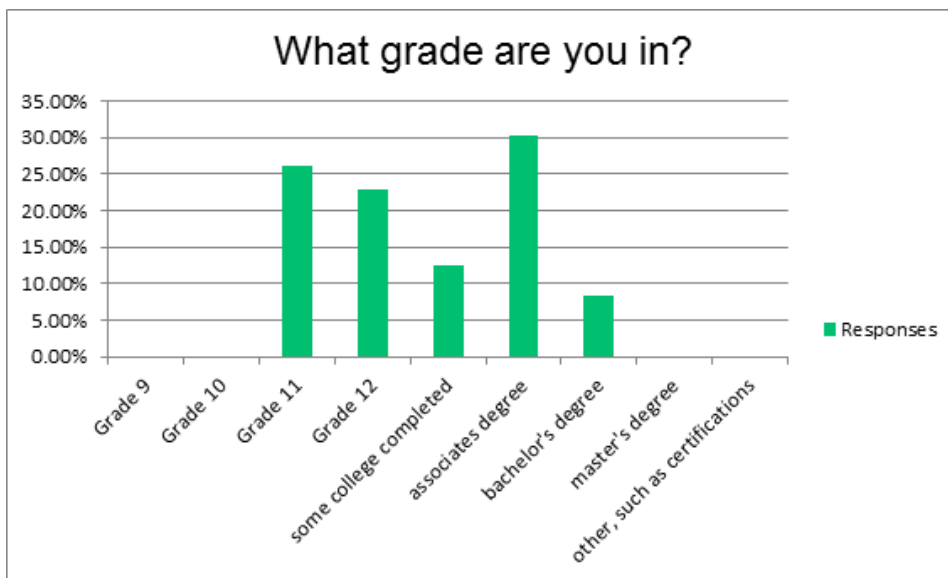
Strongly Agree (5) Agree (4) Not Sure/Neutral (3) Disagree (2) Strongly Disagree (1)

1. If I ever have extra money, I will give some to help protect nature.
2. To save energy in the winter, I make sure the heat in my room is not on too high.
3. I would like to sit by a pond and watch dragonflies.
4. People have the right to change the environment (nature).

5. Building new roads is so important that trees should be cut down.
6. I would help raise money to protect nature.
7. I always turn off the light when I do not need it anymore.
8. I like to go on trips to places like forests away from cities.
9. I like a grass lawn more than a place where flowers grow on their own.
10. Because mosquitoes live in swamps, we should drain the swamps and use the land for farming.
11. I try to tell others that nature is important.
12. I try to save water by taking shorter showers or by turning off the water when I brush my teeth.
13. I like the quiet of nature.
14. To feed people, nature must be cleared to grow food.
15. People are supposed to rule over the rest of nature.
16. Weeds should be killed because they take up space from plants we need.

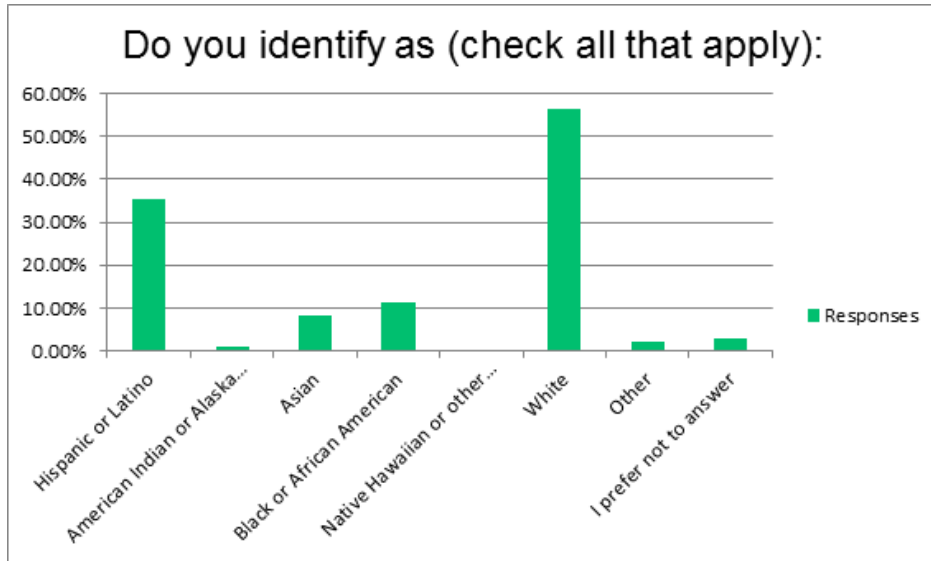
Results

Table 1 Grade level



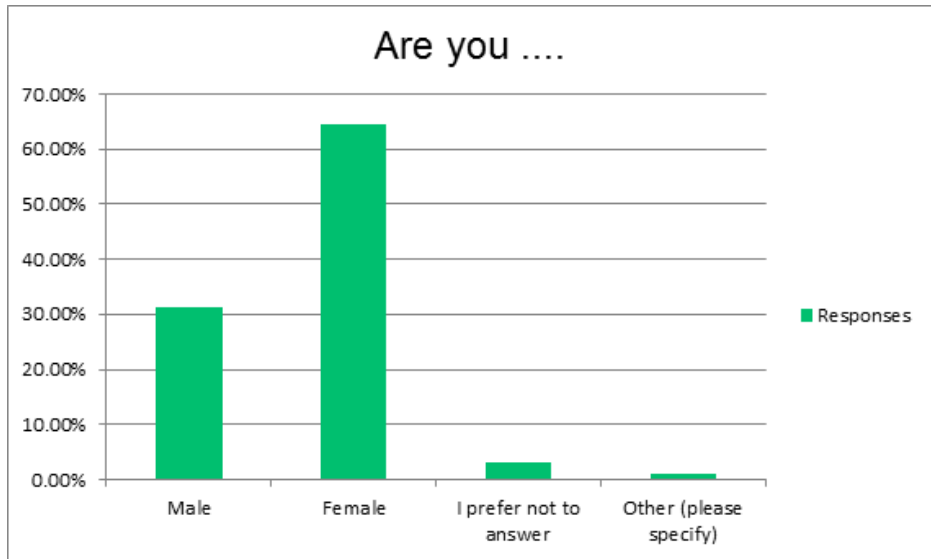
Fortunately, the target population of high school students and undergraduates are participating. It is about even with 45 % of the respondent's high school students and approximately 42 % undergraduates. Many of these students are between the ages of 16 to 24 years of age and according to 'Don't Mess with Texas' litter the most.

Table 2 Ethnicity



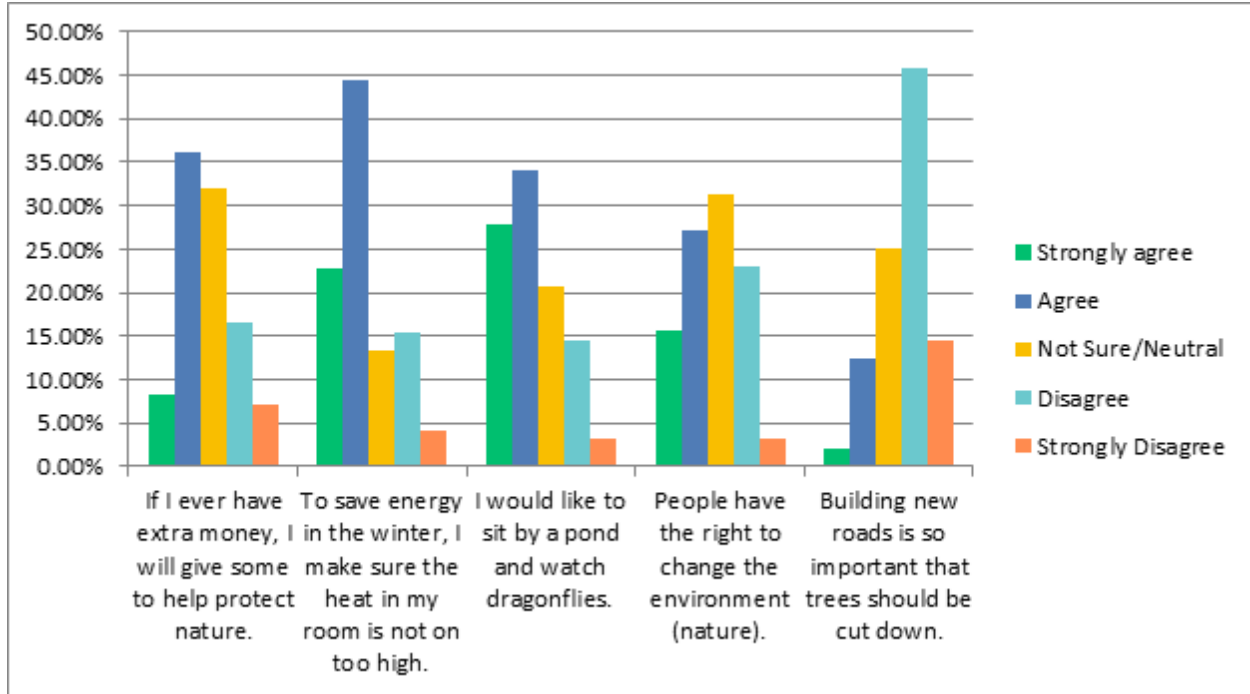
As shown on Table 2, about 55 % of the respondents are White, 35 % are Hispanic or Latino, and 11 % are Black or African American.

Table 3 Gender



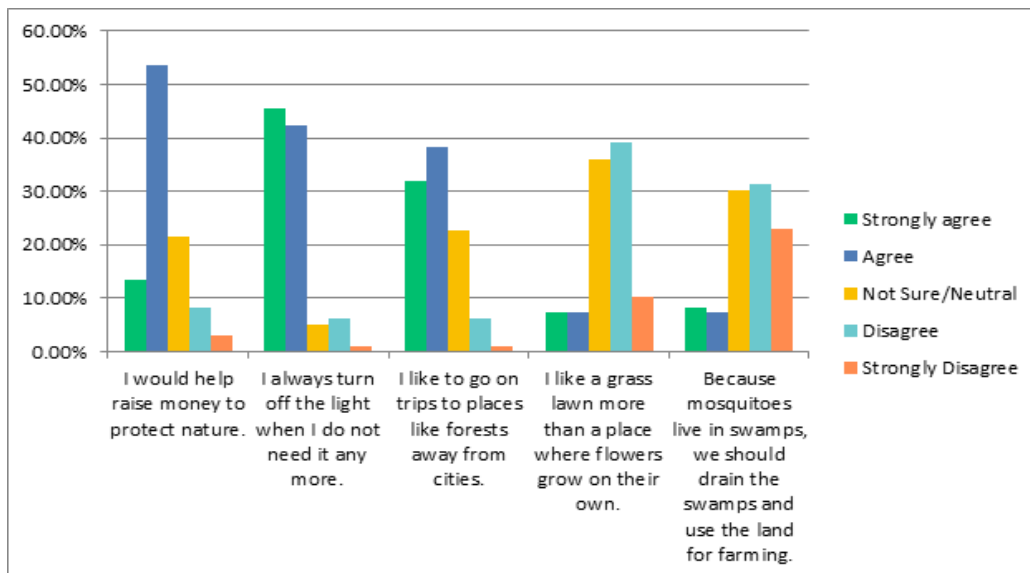
As shown on Table 3, most of the respondents were female (64 %).

Table 4 Environmental Attitude First Five Questions



What is interesting to note on Table 4 was that many students would not give extra money to protect nature or are neutral about it. In addition, students were divided over if people have the right to change the environment. Hopefully, we see a difference on the post-survey. Most students try to save energy and make the heat not too high. Another interesting result was students thought trees should not be cut down for roads.

Table 5 Environmental Attitude Question Five through Ten



Although students may not want to give their own money to protect nature, they did agree to help raise money to protect nature as shown on Table 5. Students turn off lights when not needed, like to go to the forest away from the city, are neutral about or prefer natural flowers over a grass lawn, and preferred not to have a swamped drained or are neutral about it.

Table 6 Environmental Attitude Question 11 through Sixteen

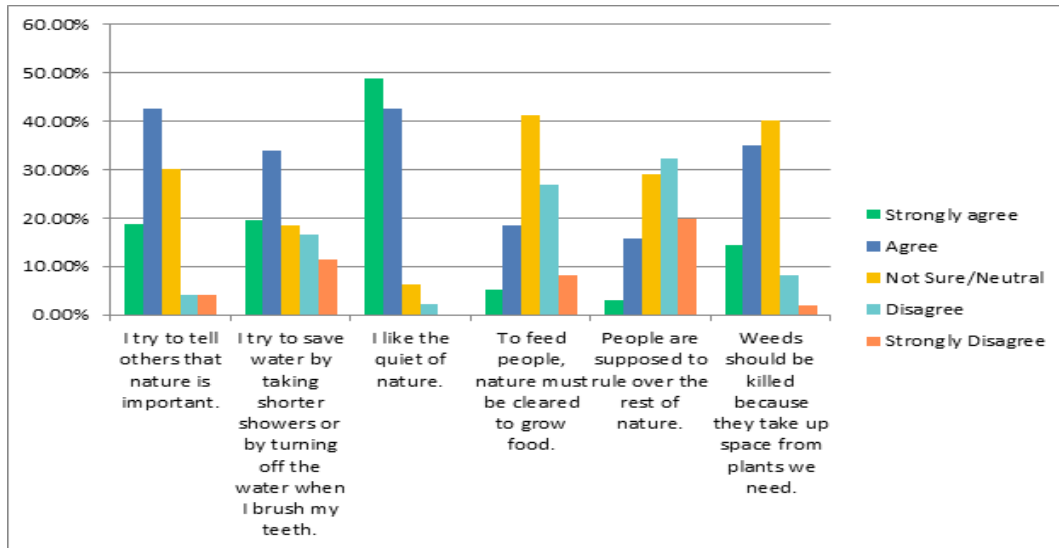


Table 6 portrays interesting pre-survey data with most students agree or are neutral about nature is important. Most students like the quiet of nature as well and try to take shorter showers. Students have mixed thoughts on clearing land to grow food. Most students are neutral or think people are not to rule over nature, although killing weeds is okay.

Next Steps

Gen Z's have the opportunity to make a difference and change the behavior of their generation and future generations. It is going to take physical work and maybe some perspiration. They may be social networking geniuses, but the constant looking at their phones, watching videos, or playing games is not going to make a difference in cleaning up the environment.

They need a behavior change. It is our hope, one student at a time (planting seeds) will create their own community sustainable stewardship project. Maybe one day, organizing people to clean up storm drains, waterways, and highways will no longer be needed. There is much more involved with our research stewardship project. The research is in progress collecting pre-post survey data and tracking, identifying, and cleaning up litter entering our watershed.

Please contact the lead author, Teresa LeSage-Clements, lesaget@uhv.edu or Dmitri Sobolev, sobolevd@uhv.edu for additional information on how you can implement a local stewardship project. This research project was made possible by the National Oceanic & Atmospheric Administration (NOAA). The viewpoints in this article are solely the beliefs of the authors and not NOAA.

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Engaging K-12 Students in C3 Inquiry-based Instruction



***Activating the Integration of
Theoretically Founded Core
Content Innovations Across
Social Studies and Literature: A
Research Study***

Presenters

Greg Levitt, UNLV
Steven Grubaugh, UNLV
Allen Deever, Research
Gabe Gonzales, K-12 EMO

Abstract

Based on the (NCSS) College, Career, and Civic Life (C3) Framework for Social Studies State Standards, this research focuses on the integration of C3 standards into the English language arts and literacy curricula. The inclusion of hand-curated related literature bring history and the social studies to life. Many additional resources are provided.



Canned vs Teacher Created Lesson Plans

- Teachers must create their own lessons to reach their own students.
- “Canned Lessons” are not responsive to your students.
- All learning is local. (apologies to Tip O’Neil, former US Speaker of the House).
- Are these statements accurate in today’s classrooms?

Research Question:

Can teachers utilize “Canned” C3 Inquiry Lessons to provide engaging and challenging lessons to their students that meet national and state standards?

A SAMPLE C3 INQUIRY “Canned” LESSON

The Inquiry Design Model (IDM) Template.

Sample: The Electoral College

A. Compelling Question

“Do we need the Electoral College?”

List National and State Standards (Social Studies and State/District Literacy Standards).

a. Staging the Question

View video: “Does my vote count?”

b. Supporting Questions

i. What is the Electoral College?

- 1. Formative Task:** Write a paragraph description of the Electoral College.
- 2. Sources:** Teacher and student generated – (All sources are reviewed for accuracy, trustworthiness, bias, etc.).

b. Supporting Questions (continued)

ii. What was the purpose and background of establishing the Electoral College?

- 1. Formative Task:** Create a 5-minute presentation on the background and purpose of establishing the Electoral College.
- 2. Sources:** Teacher and student generated – (All sources are reviewed for accuracy, trustworthiness, bias, etc.).

b. Supporting Questions (continued)

iii. What are the pros and cons of the Electoral College?

1. **Formative Task:** Create a T-Chart to illustrate the pros and cons of the electoral college.
2. **Sources:** Teacher and student generated – (All sources are reviewed for accuracy, trustworthiness, bias, etc.).

b. Supporting Questions (continued)

iv. Does the Electoral College function today as it did originally?

1. **Formative Task:** Create a position paper to prepare for a debate on supporting or opposing the elimination of the Electoral College.
2. **Sources:** Teacher and student generated – (All sources are reviewed for accuracy, trustworthiness, bias, etc.).

c. Summative Performance Task:

i. Argument: “Do we need the Electoral College?” Construct an argument (e.g., detailed outline, poster, essay) that discusses the compelling question using specific claims and relevant evidence from both historic and current sources while acknowledging competing views.

ii. Extension: Create an alternative plan to elect the President of the United States.

d. Taking Informed Action:

i. Understand: Investigate the current political climate in relation to the Electoral College.

ii. Assess: Poll 10 registered voting adults to discover what they know about the Presidential election process.

iii. Act: Create a pamphlet or a public service video on how Arkansans (or any state) fit into the election process of the President.

C3 CURATED RESOURCES

1. C3Teachers.org:

<http://www.c3teachers.org/>. Complete Inquiry Lessons for K-12 teachers.

[The IDM Model and Template.](#)

[Complete K-12 Inquires.](#) Search by grade level and subject.

C3 CURATED RESOURCES (continued)

2. Take Informed Action – Service-Learning Resources: From theory to practice. The Take Action step requires students to not simply learn about issues, problems, needs, etc. It requires students to do something to make the world a better place for everyone. In short, it teaches students they have voice, agency, and the power to make changes for the better.

2a. Service Learning Resources and Lesson Plans

i. **[Learning to Give](#)**: **1,700 lessons** to inspire and equip K-12 students to use their hearts and minds to impact their world and themselves: You don't have to adopt a new curriculum. Simply replace one of your current lessons with a standards-aligned lesson infused with **[philanthropy](#)** (must register for a free account). Come back again to find lessons about civil society, giving time and talent, issues kids care about, justice, and stewardship.

2a. Service Learning Resources and Lesson Plans (continued)

ii. **[Youth Leadership Initiative](#)**: **(YLI) Democracy Corps. [A complete service learning program](#)**: Learn about American democracy while serving your community. Serve your community while learning about the responsibilities of American democracy. YLI's Democracy Corps brings your civics lessons to the community while instilling life-long civic engagement in your students.

2a. Service Learning Resources and Lesson Plans (continued)

iii. [Do Something](#): This nonprofit provides background information on a variety of issues that interest youth, as well as ideas for taking action to promote resolution for issues. Join with other young people to make a difference.

2a. Service Learning Resources and Lesson Plans (continued)

iv. [GenerationOn](#): Go to GenerationOn.org (must register for a free account) for a full menu of project plans related to citizenship and civic engagement. See a list of [great projects for K-12 students](#) at this website.

2a. Service Learning Resources and Lesson Plans (continued)

v. [K-12 Service-Learning Standards for Quality](#)

Practice: Explore standards from the National Youth Leadership Council that deliver clear guidelines for designing and assessing meaningful service-learning experiences.

Outcome

“We are not just learning to get good grades; we are learning to become better people.”

Service Learning Definition

Service learning is a form of project-based learning (PBL) in which academic goals are accomplished through community service. Service learning is neither an add-on nor a diversion from the curriculum. It is a powerful approach to teaching that provides kids with authentic learning experiences in which they learn academic content in a real-life, real-world contexts. Properly implemented, service learning develops citizenship, responsibility, and many other positive character virtues, making it a highly effective character education program in and of itself.” Goodcharacter.com.

Public Participation in China's Low Carbon Transport
Evaluation with Insights from Game Theory

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Abstract: *With the rapid development of transportation industry: traffic congestion, resource waste, environmental pollution and traffic safety problems are increasingly serious. These problems are closely related to the vital interests of the public. The most pressing issue is public acceptance of low-carbon transport in China. This article examines the low-carbon transportation index used in current government efforts and looks at game theory as a means of better understanding public participation in low-carbon transportation evaluation in order to develop effective strategies for public education and involvement to enhance the acceptability of low-carbon transport policy.*

Since Britain proposed the low-carbon economy in 2003, low-carbon society has become a new mode of economic and social development in China. Chinese scholarship now focuses on building a low-emission, low-energy consumption, low-pollution, efficient, ecological and conservation-oriented society. In 2010, China began work on low-carbon transportation systems with pilot projects in ten cities. Xian was one of these cities since then the program has been expanded. This paper looks at what has been learned about the scientific formulation of development goals for low-carbon transportation in cities, the supporting policies required for effective implementation and evaluation and the proper role of the government. It is clear that government, enterprises and the public need to be involved throughout the process. Given what has been learned this paper employs game theory to better understand the public's role as an expression of citizens' demands in the implementation and evaluation of low-carbon transportation systems and how the government can discover and use this consumer information in transportation management to optimize public services.

Pilot Projects and Public Participation

As China modernized over the past half century it became an automobile society, this private ownership of cars and their accelerated usage brought the unintended consequences of high and increasing energy consumption, pollution and traffic congestion. Governmental allocation of transportation resources has been dominated by market concerns. Since market interests seem to be undermining the greater public interest, new criterion are needed to judge the allocation of transportation resources to achieve the greatest social welfare ^[1]. The public's recognition of the problems created by market forces holds the key to defining new objectives for the allocation of transportation resources. Through public education about low-carbon traffic systems and the creation of mechanisms for public involvement in the planning of resource allocation the public will be able to effectively participate and the government will be able to know and meet their real needs as citizens; not just as consumers.

Public Involvement and Government Supervision

The main focus of low-carbon research is carbon dioxide emissions. According to the International Energy Agency (IEA) report on carbon dioxide in 2009 transportation as the main carbon source accounts for 23% of total global carbon dioxide emissions. Since 2010 there has been a rising trend as the proportion of energy consumption for transportation has increased every year in China ^[2]. A major factor in the increase is construction planning. Because planning for construction projects takes place in a vacuum with efficiency judged only on its marketability, system wide factors and the efficiency the overall transportation system have been ignored. This wastes land and money as it increases fuel consumption ^[3]. Public awareness of low-carbon traffic options will permit them to consider the larger picture when evaluating and purchasing properties as well as being more open to governmental coordination that facilitates unified planning and design that includes

comprehensive environmental evaluation to increase efficiency, reduce duplication in construction and save energy.

Public Participation and Optimization of Public Services

Since China's reform and opening up, the government has paid too much attention to economic functions and neglected service functions, resulting in the rapid development of the automobile industry and the market for private ownership of automobiles this combination has increased transportation costs^[4], environmental pollution and traffic congestion. These negative externalities can be addressed through a public education about overall low-carbon energy systems that will facilitate public participation in the formulation of low-carbon transportation evaluation and development to create a safe convenient environment for people, improve people's quality of life and satisfaction, and provide better public goods and public services.

Public Participation in Low Carbon Transportation Evaluation

In the past low-carbon traffic evaluation, the government determined both what the public wanted/needed and how to meet their demands. It is now clear that the public must be involved in the articulation of these wants and needs. Therefore, in the model process of low-carbon traffic evaluation, the public is involved. The government educates them about the problem and low-carbon solutions so that they can evaluate local conditions, articulate and prioritize problems for government to solve.

To accomplish this objective a low-carbon traffic evaluation index was developed for the model projects using the system science methodology of "analysis-reconstruction"

Table 1: Low Carbon Traffic Statistical Index

	Clusters	Factors
(1)	Economic Development	The proportion of GDP in transportation industry
(2)		Return Rate of 10,000 Yuan in Transportation Industry
		Proportion of investment in low-carbon transport infrastructure
(3)	Environmental Development	Proportion of Energy Consumption for Motor Vehicles
		Proportion of motor vehicle exhaust emissions
		Achievement Rate of Motor Vehicle Exhaust Emission
		Low Carbon Energy Use Rate
		Proportion of Carbon Absorption Green Space Construction
(4)		Proportion of investment in environmental pollution control
(5)	Technical Development	Use Ratio of New Type Power Vehicle
		Waste Gas Pollution Control Technology
		Information Query System
		Proportion of technical expenditure to total investment
		Intelligent Energy Saving Technology
	Low Carbon Management	Popularization of low-carbon Education
		Green travel ratio
		Resident Ratio with Energy Conservation Consumption Habits
		Carbon Information Disclosure System

	Social development	Buses Per Ten Thousand People
		Kilometers of Private Car Travel
		Portability of public transport system

The index takes into account the relationship between the whole and various structural levels, as well as the full range of quantitative and qualitative factors. The index is representative and reflects the dynamic development of the environment. The design principle of the evaluation index system includes both social and economic factors ^[5]. The low-carbon traffic statistical index measures five inter-related clusters of factors (1) economic development index, (2) environmental development index, (3) technical development index, (4) low-carbon management index, (5) social development index. All of these clusters involve available statistical information that is subsequently evaluated using a psychological index for which measures of social development in terms of public participation must be developed locally for low-carbon traffic evaluation: public participation in information collection and processing, public participation in evaluation scoring, public participation in information feedback, public participation in rectification and so on.

Game Analysis of Public Participation in Low Carbon Transportation Evaluation

Game theory, also known as game analysis, models the behavior and results of interactions among rational actors. This branch of applied mathematics is widely used in many disciplines such as biology, economy, politics, information, etc. ^[6]. It is one of the most powerful analytical tools for studying political and public management issues and provides insight into the psychological dynamics of public participation in low-carbon traffic evaluation. Game models show the rational results of interactions between the government and the public and among segments of the public in different

environments, with different objectives and levels of commitment. This helps gauge the impacts of participation on the strategies of the actors. Ultimately the results of the games indicate the feasibility of low-carbon traffic decisions for the government.

Policy Assumptions

In the game model both the government and the public(s) are players. Because of the asymmetry of information and different perspectives on the issue, their respective expectations of returns differ as shown in table 2.

Table 2: The Game Benefit of Players

Participant	Participant Situation	Estimated earnings
public	participate	Optimistic Estimation of Return 7
		Pessimistic estimates of returns -1
	Not participate	Optimistic Estimation of Return 5
		Pessimistic estimates of returns 0
government	participate	Optimistic Estimation of Return 9
		Pessimistic estimates of returns -3
	Not participate	Optimistic Estimation of Return 12
		Pessimistic estimates of returns -5

Assuming that public participation in the evaluation of a low-carbon transportation project can achieve significant practical benefits, the benefit of optimistic estimate is 7; if the benefits obtained after participation are very limited, the benefit of pessimistic estimate is - 1; if the public does not participate in the relevant evaluation, the later project has no significant improvement in their lives, the benefit of pessimistic estimate is 0; if the later project will bring many benefits, the benefit of optimistic estimate is 5. Similarly, the government has weighed the benefits. If the project accepts public participation, the optimistic estimate is 9; if the project does not make much contribution after public participation, the pessimistic estimate is - 3; if the project is professional, the public participation is inappropriate, that is, the optimistic gain is 12; if the judgment is wrong, the pessimistic estimate is - 5.

With the public and the government as the players, the rational outcomes under different conditions can be modeled. The public and the government are affected by different situations in the process of participating in transportation management. Table 3 shows seven different game scenarios that arrive at the Nash equilibrium point or the point where each participants' strategies are countermeasures that balance each other to yield an optimum response.

Table 3: Game Matrices for Seven Different Game Scenarios

Scenario	Strategy Combination	Return Mix	Public1vs.Public 2		Public vs. government	
Scenario 1	Both sides participate	a, b	7, 7	7, 0	7, 9	7, -5
			0, 7	0, 0	0, 9	0, -5
Scenario 2	Neither side participates	g, h	-1, -1	-1, 5	-1, -3	-1, 12
			5, -1	5, 5	5, -3	5, 12
Scenario	1 willing to	e, f	7, -1	7, 5	7, -3	7, 12

3	participate 2 unwilling to participate		0, -1	0, 5	0, -3	0, 12
Scenario 4	2 willing to participate 1 unwilling to participate	c, d	-1, 7 5, 7	-1, 0 5, 0	-1, 9 5, 9	-1, -5 5, -5
Scenario 5	Optimism in Action; Pessimism in Different Actions	a, b g, h	7, 7 0, -1	-1, 0 5, 5	7, 9 0, -3	-1, -5 5, 12
			p=46.2%, q=46.2%		p=51.7% q=46.2%	
Scenario 6	Pessimism in Peer Action; Optimism in Different Actions	c, d e, f	-1, -1 5, 7	7, 5 0, 0	-1, -3 5, 9	7, 12 0, -5
			p=53.8%, q=53.8%		p=48.3%, q=53.8%	
Scenario 7	Mixed strategy (When one person is optimistic, the other may be pessimistic)	--	7, -1 0, 7	-1, 5 5, 0	7, -3 0, 9	-1, 12 5, -5
			p=53.8% % q=46.2% %		p=48.3% q=46.2%	

Application Scenario Analysis

The seven scenarios of game can be clustered into three types: participation of the public, non-participation of the public, and partial

participation of the public. The game scenario 1 is for everyone to participate; the game scenario 2 is for everyone not to participate; the game scenario 3&4 some participate; the game scenario 5&6 combinations of participation and non-participation with probabilities respectively; the scenario 7 is a mixed strategy.

Cluster 1

Game scenario one: both the public and the government agree that the benefits of participation outweigh those of non-participation, thus creating a herd effect that leads to wide spread active participation.

Game scenario two: the public believes that participation has no beneficial returns; the government also believes that the benefits of non-participation outweigh the benefits of participation, so neither the public nor the government are willing to spend their energy to solve the "low carbon" problem.

Cluster 2

Game scenario three: the views of the public and the government are inconsistent, and the public is divided. Public 1 believes that the benefits of participation are great, while public 2 is the opposite. As a result, the public will form different groups, and there will be free riders among the public.

Game scenario four: the public 2 thinks that the benefits of participation are greater than those of non-participation, while the public 1 thinks the opposite. In the public-to-government game, the government will face the positive attitude Public.

Game scenario five: both sides of the game are optimistic or pessimistic at the same time. The final equilibrium result is that the public imitates others to participate in decision-making problems or not to participate in decision-making problems with a certain probability, resulting in double equilibrium. In the scenario of common advance and retreat, let the public 1

participate in probability p and the public 2 participate in probability q , and get the sum when forming the equilibrium.

Game scenario six: the two players may take different actions, then make optimistic estimates; when both players take the same actions, make pessimistic estimates. In the public game, the probability of public participation is 53.8%, and the probability of non-participation is 46.2%. In the public-government game, the probability of public participation is 48.3%, the government participation is 53.8%.

Cluster 3

Game scenario seven: In the mixed strategy equilibrium, players participate in the game with probability p and q reach the equilibrium respectively. Here we introduce the calculation of sum p, q . The seventh scenario mixing strategy, in which the person authority 1 participates with probability p , authority 2 participates with probability q , not participating with Probability $1-p, 1-q$, it means mixed strategy $\sigma_1=(p,1-p), \sigma_2=(q,1-q)$, expected return of decision maker1:

$$\mu_1(\sigma_1, \sigma_2) = p[aq + e(1-q)] + (1-p)[cq + g(1-q)]$$

Defined by Nash Equilibrium and given the mixed strategy $\sigma_2=(q,1-q)$, decision maker 2 wants to get p and make $\mu_1(\sigma_1, \sigma_2)$ to be Maximum. So we derive the above formula and make it zero, get " $aq + e(1-q) - cq - g(1-q) = 0$ ",

then $q = \frac{g-e}{(a-e)-(c-g)}$, Fair and reasonable: $p = \frac{h-d}{(b-d)-(f-h)}$.

After calculation, the sum of the mixed strategy is shown in Table 3. In the mixed strategy, when 53.8% of the public choose to participate in the game, 46.2% of the public choose not to participate; in the game between the

government and the public, the probability of public participation is 48.3%, and the probability of government participation is 46.2%.

In the above game set, game scenarios can be matched with application scenarios: Game scenario 1 is suitable for projects that are very suitable for soliciting public opinions, such as giving priority to the development of public transport and collecting traffic congestion fees.

Game scenario 2 is suitable for projects with strong specialty and not suitable for public participation in large-scale, such as public participation in the evaluation of rail transit planning projects.

Game scenarios 3 & 4 are applicable to a specific range or category of specific groups of people, and there may be slightly different appeals of various public interest groups, such as high-speed rail planning through site selection.

Game scenarios 5 & 6 result in public participation in the evaluation of low-carbon traffic with a certain probability. Some people are selected to participate, so the people who are strongly related to public events are marginalized.

Game scenario 7, it belongs to mixed strategy. The relative standards and norms of the policies and regulations faced by the public in this situation are relatively mature, the final result of the game is a win-win situation^[7].

Conclusion

Game analysis of public participation in low-carbon transportation shows how public participation can accommodate professional decision-making to produce sound projects that are acceptable to the public. When a project must conform to high professional standards, public opinion only serves as a reference in decision-making and implementation of the project which may reduce public acceptability. However, when the project requires high public acceptability, public participation must dominate, and public satisfaction should be regarded as the most important indicator of the final performance measurement. In order to realize the sustainable development of low-carbon

transportation, public participation is essential.

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The Private Sector Getting Political:
Get-Out-the-Vote Drives and Related Measures

by

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The Private Sector Getting Political: Get-Out-the-Vote Drives and Related Measures

Abstract

This paper examines various political measures undertaken by companies and universities during the 2018 midterm campaign season. Steps included get-out-the-vote drives, paid time off to vote, meeting-free election days, socially conscious advertising, and more.

Introduction

Does the world feel like it has gotten “more political” over the past few years and that Democrats and Republicans are fighting more than usual? Jayson DeMers posed this question in an article in *Forbes* and noted that numerous studies suggest that the effect is not just in your head (DeMers 2017). Political polarization has been on the rise at least since the 2016 presidential election.

Private-sector companies, organizations, and institutions have been attempting to influence political outcomes and policies for years. Examples include contributions to parties, candidates, and campaigns and advertisements designed to influence public opinion on policy issues. But such efforts appear to be increasing in the “age of Trump.” Some such efforts are intended to stimulate voter turnout and others are designed to influence public policy. Consider voter turnout first.

Voter Turnout and Get-Out-the-Vote Drives

In an ideal democratic system, voters would be well informed and turnout levels would be very high. In the United States, low turnout is the norm rather than the exception. If more than 55% of eligible voters vote in a presidential election, turnout is regarded as having been relatively high. Typically, non-voters outnumber the number of votes cast for winning presidential candidates! Table 1 displays the approximate number of votes cast for presidential candidates (including some third-party candidates) and contrasts these numbers with the number of voting-age people who did not vote in relatively recent presidential elections.

Table 1: Voter Turnout in Presidential Elections (Raw Numbers)					
Year	Candidates	Popular Votes (millions)	Year	Candidates	Popular Votes (millions)
1976	Carter	40.8	2000	G.W. Bush	50.4
	Ford	39.15		Gore	51.0
	Non-voters	68		Nader	2.8
1980	Reagan	42.9		Non-voters	101.4
	Carter	34.7	2004	G.W. Bush	62
	Anderson	5.6		Kerry	59
	Non-voters	75		Other	1.0
1984	Reagan	52.6		Non-voters	93.4
	Mondale	36.5	2008	Obama	69.5
	Non-voters	78		McCain	59.9
1988	Bush Sr.	48.9		Other	1.9
	Dukakis	41.8		Non-voters	94.2
	Non-voters	91	2012	Obama	65.9
1992	W. Clinton	45		Romney	60.9
	Bush Sr.	39		Other	2.4
	Perot	20		Non-voters	106
	Non-Voters	81.8	2016	Trump	63
1996	W. Clinton	47.4		H. Clinton	65.9
	Dole	39.2		Non-voters	112
	Perot	8.1			
	Non-Voters	98.6			

Source: Stanley, Harold W. and Niemi, Richard G., eds. *Vital Statistics on American Politics 2015-2016*. CQ Press; *World Almanac and Book of Facts*; U.S. Census Bureau, *Statistical Abstract of the United States 2016*
<https://www.census.gov/prod/2011pubs/12statab/election.pdf>; *The National Data Book*

To cite just a few examples, in 1980, Ronald Reagan defeated the incumbent President Jimmy Carter in a “landslide.” Reagan received 42.9 million popular votes to Carter’s 34.7 million. But non-voters numbered 75 million. It was the non-voters who “won” in a landslide. In 1996, President Bill Clinton was reelected with 47.4 million popular votes to Robert Dole’s 39.2 million and Ross Perot’s 8.1 million. But there were 98.6 million non-voters. The number 98.6 is a sign of health when taking a patient’s temperature, but it sends a different message when assessing the vitality of American electoral participation. Most recently, in 2016, Hillary Clinton received 65.9 million popular votes to Donald Trump’s 63 million. Trump won the presidency by winning more electoral votes than Clinton, but the Electoral College is a story for another day. The immediate point is that non-voters exceeded 100 million for the third time in the last five presidential elections.

The news gets worse. Voter turnout is substantially lower in congressional elections held during midterms than it is in congressional elections held during presidential years. By some estimates, turnout in midterm elections drops by as much as 15% from presidential-year turnout. Some voters only vote during presidential years. Congressional candidates of the winning presidential candidate’s party receive an artificial boost at the polls from voters who simply vote for congressional candidates

who share the president's party. In effect, some members of Congress ride the president's "coattails" into office – a "coattail effect." In the subsequent midterm election, these congressmen run on their own without the benefit of the president's artificial boost. Many members of the president's party lose in midterm elections. Table 2 displays seat losses in the House of Representatives by members of the president's party.

Year	Party Holding Presidency	President's Party: Gain or Loss of Seats	Year	Party Holding Presidency	President's Party: Gain or Loss of Seats
1906	R	-28	1966	D	-48
1910	R	-57	1970	R	-12
1914	D	-61	1974	R	-48
1918	D	-22	1978	D	-15
1922	R	-77	1982	R	-26
1926	R	-9	1986	R	-5
1930	R	-52	1990	R	-8
1934	D	+9	1994	D	-54
1938	D	-72	1998	D	+5
1942	D	-44	2002	R	+8
1946	D	-55	2006	R	-30
1950	D	-28	2010	D	-63
1954	R	-18	2014	D	-13
1958	R	-48	2018	R	-40
1962	D	-4			

Source: Brookings. "Losses by President's Party in Midterm Elections."

https://www.brookings.edu/wp-content/uploads/2017/01/vitalstats_ch2_tbl4.pdf (accessed March 25, 2019).

In all but three midterm elections from 1906 through 2018, the president's party lost seats in the House. In 2018, Republicans lost 40 seats. The average House seat loss for the president's party since 1906 is 31.6.

Additional perspective is provided by comparing U.S. turnout rates to turnout in other countries. Table 3 displays voter turnout rates in selected world democracies. The International Institute for Democracy compiled a voter turnout database in presidential and parliamentary elections around the world since 1945. The database provides global statistics on elections for national political offices where there is a reasonable degree of competitiveness, excluding one-party states like North Korea, China, and the Soviet Union.

Country	Parliamentary Voter Turnout (Percentage of Registered Voters Who Actually Voted)	Parliamentary VAP Turnout (Percentage of Voting Age Population Who Actually Voted)	Presidential Voter Turnout (Percentage of Registered Voters Who Actually Voted)	Presidential VAP Turnout (Percentage of Voting Age Population Who Actually Voted)
Australia	91.01	78.96	---	---
Belgium	89.37	87.21	---	---
Sweden	87.18	82.08	---	---
Denmark	85.89	80.34	---	---
Netherlands	81.93	77.31	---	---
New Zealand	79.75	76.35	---	---
Iceland	79.18	75.68	75.67	72.93
Norway	78.22	70.59	---	---
Germany	76.15	69.11	---	---
Italy	72.93	65.18	---	---
Israel	72.34	76.10	---	---
Spain	69.84	60.87	---	---
United Kingdom	68.93	62.88	---	---
Canada	68.28	62.12	---	---
Finland	66.85	73.14	66.76	67.47*
United States	65.44	55.98	65.44	55.98
Ireland	65.09	58.04	43.87	39.33
Greece	63.94	70.65	---	---
Portugal	55.84	61.75	48.7	53.98*
Japan	52.66	51.97	---	---
Switzerland	48.51	38.63	---	---
France	42.64	38.62	74.56	67.93

Source: International Institute for Democracy, “Voter Turnout Database”
<https://www.idea.int/data-tools/data/voter-turnout> (accessed March 8, 2019)

*In some countries, registered voters exceed the VAP. The explanation for this anomaly lies either in the inaccuracy of the electoral roll or in estimated numbers of the voting age population.

Some columns are based on the percentage of *registered* voters who actually voted and some are based on the percentage of the *voting age population* (VAP) who actually voted. Either way, the United States places below the middle of the pack. The U.S. Census Bureau calculates official turnout in presidential elections as the number of people voting divided by the voting age population. As Table 4 indicates, this simple formula reduces turnout in that some voting age citizens – felons, people confined to mental institutions or prisons, and non-citizens – cannot vote even if they wanted to. But their failure to vote counts against U.S. turnout rates. Furthermore, in the U.S., the responsibility for registering to vote falls on individual citizens. In some other countries, the registration burden is placed on the government. Registrars may register voters door-to-door, registration forms are sent to citizens, and some register voters automatically when they pay taxes. The 1993 “Motor Voter Law” permitted U.S. citizens to register to vote when they applied for or renewed their drivers’ licenses. Registration

increased substantially after this law went into effect. Sixteen states (California, Colorado, Connecticut, Hawaii, Idaho, Illinois, Iowa, Maine, Minnesota, Montana, New Hampshire, Utah, Vermont, Washington, Wisconsin, and Wyoming) and the District of Columbia currently allow Election Day registration (EDR). Maryland and North Carolina permit voters to register during the early voting period but not on Election Day itself (Brennan Center for Justice 2018). Such measures increase turnout. In short, in the U.S., there are convenience costs associated with registering and voting. In some countries, by contrast, non-voting is more costly.

Voting is compulsory in some countries. In Australia and Belgium, for example, non-voters are subjected to fines for not voting without a valid excuse. Table 4 shows that these countries have turnout in the 90% range. In Italy, “Did Not Vote” is stamped on identification papers of non-voters. Italian non-voters also see their names posted on communal bulletin boards. In addition, elections in the United States are held on Tuesdays, a work day. Tuesday was set as the day to hold federal elections in the mid-1800s when Congress decided that it was a convenient day for Sabbath-observing farmers to make a trip into town to vote. In many other countries, elections are held on weekends or election days are declared official holidays. In Italy, transportation is provided for people who want to return to their hometowns to vote. Another disincentive to voting is that some states use voter registration lists to select potential jurors. The fear of losing time from work if called for jury duty motivates some citizens to refrain from registering to vote. Of course, jurors can also be drawn using tax records and drivers’ licenses so this dodge is not foolproof.

The bottom line is that voter turnout in the United States is lower than many would like it to be. In some cases, the private sector has stepped up with efforts designed to help people vote.

The Private Sector and Voter Turnout: Getting Out the Vote

In 2012, the National Task Force on Civic Learning and Democratic Engagement said that civic learning and engagement should be more pervasive on college campuses. In 2016, the ALL IN Campus Democracy Challenge began. ALL IN seeks to increase the number of college students who are democratically engaged during and between elections and to make educating for democratic engagement on college campuses an expected part of the culture and curriculum. Students should develop the knowledge, skills, and values needed to be informed and active citizens. ALL IN has participating campuses in 48 states and the District of Columbia including 473 institutions and 886 campuses serving 5,499,654 students (ALL IN 2019).

According to a study from the Pew Research Center, the most common reason for nonvoting is that people had work or school conflicts that kept them away from the polls (Pew Research Center 2014). A group of approximately 300 companies launched a campaign (“Time to Vote”) to give employees time off with pay to vote in the 2018 midterm elections. Participating companies included WalMart, coffee roaster LaColombe, Dick’s Sporting Goods, Patagonia, Levi Strauss, the Mediterranean restaurant Cava, Tyson Food, PayPal, Etsy, Nordstrom, the Gap, and more. Table 4 provides a list of involved companies.

Table 4: Time to Vote -- All Participants

<p>A-C 104 West Partners; 4Pia; Abercrombie & Fitch Co.; AcademyOne Inc.; Activate World; Active Endeavors; Adventure Apparel; ALC; Allagash Brewing; Allbirds; Allergan; Allison + Partners; Alpine Investors; Amyris; Aqua Pure Water & Sewage Service LLC; Arabella Advisors; Arcadian Shop; Art4Art, Inc.; Askov Finlayson; Aspen Electric and Solar; Aspen Skiing Company; August Jackson; Aunt Bertha Inc.; Austin Trail Running Company; Avening Management and Technical Services, LLC; Avitru; bamboo; Bandwidth; BBAccel; Beautycounter; Bedroc Inc.; Bedrock Manufacturing (Shinola, Filson); Beehive Strategic Communication; Benecomms; Beneficial State Bank and Foundation; Bibo Coffee Co.; Bighorn Outdoor Specialists; Bill4Time; Bivouac; BLDG Active; BlockWorks Group; Blue Bottle Brewing Company; Blue Point Brewing Company; Blue Jay Worldwide, LLC; Blue Mountain Outfitters; blueseventy; Bold Betties; Bolder Industries; Bombas; Boxed; Breakers Suft Shop; Bridge; Bristlecone Events; Brown-Forman; Buffalo Creek Consulting; Buffalo Peak Outfitters; Buildium; Bullhaus Ventures; Bullhorn Creative; Bureo Inc; Burton; Carmichael Lynch Relate; CarrotNewYork; Casebook PBC; CauseLabs; CAVA; Centre Lane Partners; Centro; Channel Islands Surfboards; Circle of Seasons Charter School; Clare V.; Clear Water Outdoor; Cliff Consulting; Clove & Twine; Coalition Snow; Comlinkdata; Communally; Commvault; Commit Partnership; CommonStock, Inc.; Cordova Gear; Crazy Mountain Outdoor Co.; Credit Karma; Credo Beauty; CURE Pharmaceutical;</p>
<p>D-I Danna-Gracey; Datami; Datto; Deckers Brands; Denali; Devaney & Associates Inc.; DICK'S Sporting Goods; Direct Mortgage Loans, LLC; Distil Union; DLC Management Corporation; Doctors on Demand; DÖEN; Doing Good Works; Dragonfly Anglers; Edgewell Personal Care; EHE; Eight; EILEEN FISHER Inc.; Electric Pulp; Elevation Clothing; Emerger Strategies; Emmy's Organic; Emplify; Epic Sports; Escape Outdoors; Event Strategy Group; evo; Experian N.A.; Fair Trade USA; Farmers Insurance; Farmers Insurance Sapphire Dooley Agency; Fast Horse; Fatherly; Favor Your Day; FilterEasy; Filson; Finan McDonald Clothing Company; Finger Lakes Running Co.; Fire Engine RED; First Lite; Flat Vernacular; Fleishman Hillard; Flightlinez Bootleg Canyon; Florida for Good; Floyd, Inc; Foggy Mountain Shop; Fontana Sports; Forrester; Foundation Technologies; Fuse Media LLC; Gallery Media Group; GAP Inc.; Gear Patrol; Gearhead Outfitters; Glance Networks; Goddess Garden; Godfrey Dadich; Golin; Goodnight Loving Vodka; Great Outdoor Provision Co.; Great Outdoor Store; Greenpeace, Inc.; GreenWeaver Landscapes, LLC; GYRO Creative Group; Habitat for Humanity New York City; Half-Moon Outfitters; Harbor Freight Tools; Harlem Skin & Laser Clinic; Haul Over; Here; Heritage Goods & Supply; High Mountain Outfitters; Highland Hiker; hint; Home Means Nevada Co.; Hub Coffee Roasters; Hustle; Hutch; IANS; Idaho Mountain Touring; Idealist Consulting; Ideas United; IMBIB Custom Brews; Immucor; Ingage Partners; InkHouse; Inkwell/ROAM; Innotech Laser; Insurance Auto Auctions, Inc.; Integriti3D; International Festival of Arts & Ideas; Intouch Group; Invenra Inc.;</p>
<p>J-O Jackson Hewitt; JANE.hr; Jans LTD; J.L. Waters and Co.; Jonathan Rose Companies; JOOR; Kaiser Permanente; Kaplan Test Prep; KAYAK; Kendall Square Association; Kenneth Cole Productions; KensieMae, LLC; KIND Healthy Snacks; Klean Kanteen; Knotel; Kobie Marketing; La Colombe Coffee Roasters; Last Call Media; Laughing Planet Café; Laxalt and McIver; Leavenworth Mountain Sports; Leota; Levi Strauss & Co.; Levick; LiveRamp; London Calling Salon; LoveTheWild; LUMIONskin; Lyft; Lyric Hospitality, Inc.; Magnet Companies; MainStream Strategy; Marlo's Bakeshop; Masseys; Mast General Store; Master Clinician Network; Maximum Games; MediaMath; Mediocre Creative; Mesa Rim Climbing Centers; Michele Varian; Michele's</p>

Granola; Microgrid Systems Laboratory; MightyHive; MiiR; M Mercer Consulting; ModCloth; Monarch Services - Servicios Monarca; Monti Kids; Morning Consult; Mountain Angler; Mountain High Outfitters; Mountain Sports; Mountain View Sports; Mozilla; Muck Rack; National Community Investment Fund; NATURA CULINA, CO, Inc.; Nature's Closet; Need Supply; New Belgium Brewing; New Directions Treatment Services; New Haven Partner Store; Next Door; Niantic, Inc.; Nixon Inc; Nordstrom; NudgeTV; NYC Leadership Academy; One Savvy Mother, LLC; ONTRAPORT; OpenTable; Ordergroove; OSEA Malibu; Ozone Partner US LLC; Out There Outfitters; Outsiders Hair Studio;

P- S

Pacers Running; Pack Rat Outdoor Center; Packer Expeditions; Paragon Sports; Patagonia; Patagonia Provisions; PayPal; Pearl Law Group; Penny's; Penske Media Corporation; Peppercomm; Perrodin Supply Co; PhosphoSolutions; Piña Colada; Pipeline; Pine Needle Mountaineering; Pivot Interiors; Podcraft; POINT380; Porter Novelli; Prescott Group; Priceline; Prince Organization; Prosperity Candle; Purple Strategies; Purple Leaf, LLC; Quantworks, Inc.; QuotaPath; QUINN; Rafferty Home Systems; Ramsey Outdoor; Ranker; Red Ledge; Red Queen Gaming; Redemption Plus; Reed's; Relish Studio; Rendezvous Adventure Outfitters; RevZilla.com; Ripple; Road Rivers and Trails; Rocky Mountain Anglers; Rocky Mountain Outfitter; ROKK Solutions; Room & Board; S1 Medical; Salacia Salts; Salem Summit Co.; San Francisco CASA; Scream Agency; Search Wizards, Inc; Servable; Sfara, Inc.; SH Architecture; Shorty Awards; Silberstein Architecture; Silipint Inc.; Silver Sage Center for Family Medicine; Simple Construct; SkinOwl; Skirack; SlapFive; Slice; Smalls; Smartwool; Smith Designs; SocialCode; Social Sunday; Solar Sister; Somos Inc.; Sonos; Sophos; Southwest Airlines; Spikeball Inc; Spiro; Squarespace; SS+K; Stellar Solutions, Inc.; Steptoe & Johnson LLP; Straightline Sports; Sunriver Sports; Surfrider Foundation; Sustain Natural; sweetgreen;

T-Z

T3; Tackle Box Outfitters; Tahoe Mountain Sports; Tampa Bay Outfitters; Tamara Mellon; Taos Fly Shop; Taos Mountain Outfitters; Tea Collection; teaRIOT; Team One Newport; Tech Networks of Boston; Teladoc Health; Telaria; Terra PR; Teton Mountaineering; The April Hall Quartet; The Associated Management Group; The Bachelor Farmer; The Beachwater Co.; The Butler Bros; The Daily Grind; The Frontier Project; The HOPE Program; The Lakes Running Co.; The Mountain Air; The Mountaineer; The Naughty Greek; The North Face; The Redwoods Group; The Reel Life; The Syndicate; The Trail House; The Trust for Public Land; Thelma Kirkwood, CPA, An APC; theSkimm; This Also, Inc.; THREADS - Footloose & Fancy; Tidal River Clothing Co.; Timber Trails; Timberland; Toad & Co.; Townsend Bertram & Co.; TPG; Tracker Corp; Trail Creek Outfitters; Trail Head; Travel & Nature; Travel Country Outfitters; Trek Light Gear; TRICENTS; Turtle Fur; TwelveTwentyOne, LLC; Tyson Foods; Ultimate Direction; Uncle Dan's Outfitters; UnderBar LLC; Union Kitchen; Union Square Hospitality Group; United Way of Northwest Vermont; Unreasonable Group, LLC; UNTUCKit; urbangreen furniture; Ute Mountaineer; Vaudeville Ventures; Verde Brand Communications; VF Corporation; Walmart; Wash with Water; Water Stone Outdoors; Watershed; Weinstein, JCC; Whole Earth Provision Co.; Wild Friends Foods; Wild Iris Mountain Sports; Wildernest; Willow; Willow Canyon Outdoor; Winthrop Mountain Sports; Wordbank; World Surf League; World's Finest Chocolate; W S Badger Co.; Wylder Goods; Yurgosky; Zeno

Source: "Time to Vote: All Participants <https://www.maketimetovote.org/participants> (accessed March 10, 2019)

The Society for Human Resources Management reported that a record 44% of American firms were giving workers paid time off to vote in the 2018 midterms, up from 37% in 2016. Federal law does not require employers to give workers time off to vote. Some states have related provisions but policies vary by state (Radelat 2018). Patagonia shut down its stores on Election Day. A company spokesperson explained that “voting is more important than shopping” (Whitten and Newburger 2018). Lyft offered free rides to the polls for people in “underserved communities” and 50% discounts for other voters. Uber offered \$10 off single rides to the polls (Radelat). Some companies provided “meeting free work days” to help workers get to the polls (McGowan 2018).

These measures appear to have helped. Voter turnout was high. According to the U.S. Elections Project, 49.2% of eligible voters voted in the midterms. This was the highest recorded rate for a midterm election since 1914. Typically, about 40% of eligible voters actually vote in non-presidential elections. In 2014, turnout was especially low when only 36.4% voted – the lowest turnout in 70 years (Bach 2018). In 2018, turnout increased by 12.8%

The Private Sector and Policy Advocacy

Patagonia is a small company that makes tools and clothes for climbing, skiing, snowboarding, surfing, fly fishing, paddling, and trail running. These are “quiet” sports, requiring neither a motor nor a cheering crowd, sports that connect the individual with nature. In addition to its already-mentioned get-out-the-vote efforts, Patagonia launched a nonpartisan environmental campaign called “Vote Our Planet” in 2018, urging Americans to vote to defend the planet’s air, water, and soil. The campaign urged voters to vote purposefully with the environment as their top issue in the 2018 midterms (Byars 2016). The campaign is consistent with Patagonia’s mission statement: “Build the best product, do no unnecessary harm, use business to inspire and implement solutions to the environmental crisis.” Among other things, the company donates 1% of its sales to grassroots environmental groups (“Patagonia’s Mission Statement” 2018). Patagonia founder and owner Yvon Chouinard said, “Many young voters feel disenfranchised and disillusioned by politics. But if they voted in full force, and voiced the urgency of the environmental crisis, politicians would have to take their issues seriously” (Patagonia). The company urges voters to stress solar power initiatives, pollution regulations, and stopping new pipelines. They have provided almost \$1 million in environmental grants to groups addressing such issues. They dedicate space in catalogs, electronic newsletters, blogs, store displays and social media to publicize their environmental message. They offer a hub with links to the League of Conservation Voters, Sierra Club, Ballot Ready, Next Gen Climate, Change Politics, Grist, Headcount, TurboVote, and Politico to inform voters about these issues (Patagonia).

The Private Sector in a Political Advisory Role

Corporate leaders are sometimes recruited to serve in government roles including advisory commissions. The purposes are twofold: such leaders bring genuine expertise that can enhance policy decisions and their presence can have public-relations value. Consider, for example, two groups of outside business advisers that President Trump established during his first year in office: the American Manufacturing Council and his Strategic & Policy Forum.

In August of 2017, white supremacists who were protesting the removal of a statue of General Robert E. Lee clashed with counter-protestors in Charlottesville, Virginia. White nationalists marched while chanting “Jews will not replace us” and the Nazi slogan, “Blood and Soil.” One of them drove his car into a crowd of protestors, killing one woman and injuring 19 more. In his initial statement, President Trump denounced “hatred, bigotry, and violence . . . on many sides.” Critics charged that he was equating the neo-Nazis with those who opposed white supremacy. He issued a second, more conciliatory statement. But he followed with yet another statement in which he said, “Not all of those people were neo-Nazis, believe me. Not all of those people were white supremacists by any stretch. . . . There is blame on both sides . . . you also had people that [sic] were very fine people on both sides.” Former KKK leader David Duke tweeted his thanks to the President (Woodward 2018, 238-46).

Kenneth Frazier, the African-American CEO of the Fortune 500 pharmaceutical company Merck, announced his resignation from Trump’s American Manufacturing Council. Trump immediately attacked Frazier on Twitter (“he will have more time to LOWER RIPOFF DRUG PRICES!”). CEOs of Intel and UnderArmour also resigned. Trump stated that he had many more business leaders ready to replace those who left and called those who resigned “grandstanders.” Following Trump’s press conference, CEOs of 3M, Campbell Soup, and General Electric, and representatives from the AFL-CIO and the president of the Alliance of American Manufacturing left the Manufacturing Council. Jamie Dimon, CEO of JPChase, informed employees that the Strategic & Policy Forum had decided to disband. To prevent further resignations and potential embarrassment, Trump abolished both groups. He did so via Twitter. House Speaker Paul Ryan (R-WI) and Senate Majority Leader Mitch McConnell (R-KY) called some of the CEOs and commended them for taking a stand (Woodward, 247-48).

This episode illustrates that private sector involvement in the political world can produce positive or negative publicity depending on circumstances and public opinion among core customer groups.

Socially Conscious Companies, Corporate Responsibility, and the Bottom Line

Companies can be socially conscious even if their products do not have obvious socially conscious ties. For example, they can bring in dogs to help reduce employee stress, permit flexible work schedules to accommodate families, provide room for an employee-run garden, stop serving lunch in Styrofoam containers, to cite just a few examples (Peretz 2017). Zappos works with charitable organizations to donate shoes, books, and school supplies to people in need. LinkedIn works with organizations to connect underserved communities to economic opportunities. They partner with youth training groups, veterans organizations, refugee resource networks, and so on. Levi Strauss reduced water use in manufacturing by 96% saving more than one billion liters of water since 2011. Bosch invests 50% of its R&D in technologies supporting conservation and environmental protection. Ben and Jerry’s allocates 7.5% of pretax profits to philanthropy (Vilas 2017). Starbucks is replacing plastic straws with recyclable strawless lids and straws made from alternative materials for customers who prefer or need a straw. The move will eliminate more than one billion plastic straws per year from Starbucks stores and from the oceans (Starbucks 2018).Lyft donated \$1 million to the ACLU after Trump announced a ban on travel from seven Muslim-majority countries (Zimmerman 2017).

Corporate social responsibility is increasingly important for consumers (especially young people) who may be willing to pay a little more to support companies that exhibit social consciousness. The Nielsen Global Survey of Corporate Responsibility found that more than half of those surveyed are willing to pay more for products and services provided by companies that are committed to positive social and environmental impact (Gauss 2018). Consumers are looking to the political and ethical implications of their purchases. Consumers are thinking about consumption as a way of exercising social and political opinions and priorities. Generation Z cares very much about the stands companies take on social and political issues. Companies are noticing (McGowan 2018).

The recent Nike ad campaign celebrating the 30th anniversary of the slogan “Just Do It” features former San Francisco 49ers quarterback Colin Kaepernick with a message about being willing to sacrifice everything (Nike 2018). Kaepernick and other NFL players knelt during the playing of the National Anthem to protest police killings of unarmed black Americans. The Nike ad does not explicitly mention the protests or police shootings but it refers to his claim that he remained unemployed because the NFL banned him: “Believe in something. Even if it means sacrificing everything.” There were calls to boycott Nike products. Some critics complain that using Kaepernick in a Nike ad dilutes and commercializes his message. The ad campaign is undeniably political but it appears to have made good business sense too, helping Nike appeal to its core customers, two-thirds of whom are under 35 (Bain 2018). Some consumers burned their Nike sneakers, but online sales increased by 28% following release of the Kaepernick ads (Gregory 2018).

Coca Cola ran an ad during the 2019 Superbowl (“Forever Forward”) celebrating black history and its progression over time in conjunction with the evolution of the Coca-Cola bottle (Coca Cola 2019). The ad includes references to Jackie Robinson, Rosa Parks, Martin Luther King, Jr. and more.

Levi’s ran an ad, “Use Your Vote” (Levi’s 2018) featuring the lyrics of Aretha Franklin’s, *Think* (“You better think what you’re doing to me...Freedom...”). The ad, part of Levi’s get-out-the-vote campaign, shows diverse voters on their way to the polls and ends with the line, “It’s your voice. It’s your vote.” Promoting voting can also appeal to young customers, whose business the company wants for many years, without alienating other customers. Levi’s also pledged its support in efforts to end gun violence. CEO Chip Bergh said, “[a]s a company, we have never been afraid to take a stand to support a greater good” (Pasquarelli 2018).

Corporate social responsibility is increasingly important to job candidates and potential employees too so there are recruiting and retention benefits for companies that exhibit social consciousness. The Nielsen Survey found that two-thirds of those surveyed would rather work for such a company (Gauss 2018).

But sometimes attempts to convey a socially conscious message backfire. Pepsi ran an ad featuring Kendall Jenner joining a group of young, smiling, laughing, hugging, high-fiving, generic protestors (Pepsi 2017). The ad concludes when a police officer smiles and accepts a can of Pepsi from Jenner while the protestors cheer and applaud. Commentators accused Pepsi of appropriating imagery from the Black Lives Matter Movement and other serious protests to sell its product and minimizing the danger protestors encounter and feel. Bernice King, daughter of Martin Luther King Jr. and

Coretta Scott King, tweeted, "If only Daddy would have known about the power of #Pepsi." Saying they "missed the mark," Pepsi apologized: "We did not intend to make light of any serious issue. We are pulling the content and halting any further rollout" (Victor 2018; "Here's Why Kendall Jenner's Pepsi Ad Is So Controversial" 2017).

Conclusions: Proceed with Caution

On balance, is taking political stands and incorporating political messages into ads a good business strategy? Jayson DeMers contrasts the different responses of Uber and Lyft to President Trump's immigration ban. When two Iraqis were detained at JFK International Airport, the New York City Taxi Workers Alliance protested by refusing pickups. Lyft donated \$1 million to the American Civil Liberties Union. Uber continued to operate as usual. The hashtag #Delete Uber began and Lyft surpassed Uber in business that day. Shortly thereafter, Uber CEO Travis Kalanick resigned from Trump's economic advisory group. In a related vein, Starbucks CEO Howard Schultz expressed "deep concern" over the immigration ban and Trump's plans to build a wall and he announced the company's plans to hire refugees. Trump supporters boycotted Starbucks while others professed their continued loyalty. (DeMers 2018). Schultz considered running for president as a "centrist independent."

What can go wrong? Sponsoring get-out-the-vote drives and providing employees with time to vote is relatively safe. Advocating specific issue positions can be more controversial. Some who are offended by the position taken by a company will take their business elsewhere. If a company is perceived to be inauthentic or seen as exploiting an issue instead of expressing genuine concern, the message can backfire. The Pepsi ad with Kendall Jenner is a case in point. On the other hand, there are potential business benefits too. Customers who remain loyal to the brand may become even *more* strongly committed than they were previously (DeMers).

Political messaging by private companies brings mixed responses. Consider what happened to Stephen Martin, owner of Prime Time Sports in Colorado. After Nike aired the Kaepernick ad, Martin reduced prices on Nike merchandise in an attempt to remove Nike from his store. Five months later, the store was slated to close after 20 years in business. Martin said his protest of Nike played a large part in the store's closing. "Being a sports store without Nike is kind of like being a milk store without milk or a gas station without gas. How do you do it? They have a monopoly on jerseys," said Martin.

Martin's store had previously canceled an autograph signing with Brandon Marshall after the Broncos player knelt during the National Anthem in 2016 to protest police brutality. Martin was expressing his own political viewpoints but he learned that Kaepernick and Marshall had a lot of supporters who could shop elsewhere. "As much as I hate to admit this, perhaps there are more Brandon Marshall and Colin Kaepernick supporters out there than I realized," said Martin (Joseph 2019).

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No Understanding-You Fail

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No Understanding-You Fail

Mastering science and math vocabulary is the key to success in these disciplines. There are many good strategies to ace tests and for help one gain life-long understanding of science and math vocabulary. Unfortunately if one does not have the understanding, it will create a barrier for all future learning of the two disciplines.

Today's teachers are faced with numerous problems every hour of the teaching day. One of the greatest challenges is 'word meaning' as many students have a limited knowledge and ability to use words. This is partly due to English not being the student's first language, home life not having rich language environment, family economics being that there is little to no time for oral communication and the list continues and the children's vocabulary suffers (Vygotsky, 1986).

Some thirty or so years ago, students were given page after page of computational problems with little or no emphasis on situational problems. In today's classroom, mathematics still uses numbers to compute for answers to everyday problems but most problems are situational and the student is forced to read. While mathematics has been referred to the 'universal language' the pendulum has swung to the other side and one would have difficulties calling it a universal language today. Universal language would imply anyone regardless of their native language could be able to solve mathematical problems. We must realize that mathematics is not the universal language when a student with limited English reading skills cannot solve the problem. (Adoniou & Qing, 2014). In order to get back to having mathematics as a university language, we must help the learner to master word meanings. Mathematics is more than computation.

Memorizing vocabulary words is not the answer. If one just memorizes words and is expected to repeat on que a group of words to explain the given word, he/she does not have any connection between the word and its meaning. This connection is an absolute requirement if one is to be successful in math or science. Word meaning is extremely complex and one of the major stumbling blocks for students on all sections of standardized tests with mathematics and science being no exception. (August, Carlo, Dressler & Snow, 2005).

Tests are timed and in many instances the student just doesn't have enough time. To help clarify while visiting with a colleague who is a native of South America, she shared this if she was to do a situational problem, 1) had to carefully read the problem, 2) had to translate the problem to her native language, 3) perform the necessary problem solving, 4) reread the problem to be sure she was translating it correctly then when she felt sure she had worked the problem correctly, 5) would translate the problem back to English and finally 6) be able to mark the answer. These extra steps seem to be very plausible for students whose first language is not English. And the clock is keep ticking away the minutes as these extra steps are consuming time. So now we are faced with the question, did the student not know the material or was it that he did not have enough time.

An analysis of the released math questions on the 2014 State of Texas Assessment of Academic Readiness (STAAR) revealed many questions had words with numerous meanings could be very confusing (Author, 2014, 2015). Her research found approximately 250 words in the math sections at each of the grade levels, three, four and five. On a random question, she found two (number and sentence) words which generated twenty plus dictionary definitions. Looking at the science section produced about the same results.

For example, numbers can be presented as a noun 1) figure used in counting, 2) identifying figure, 3) countable quantity, 4) single thing in series, 5) counting, 6) grammatical quantity, 7) piece of music, 8) garment, 9) thing, and 10) person, and number as a verb, 1) identify somebody or something by number, 2) achieve total, and 3) include somebody or something and several more.

Stop and think for a moment, when you were first being taught to write definitions of words it was stressed that you could not use the word or form of the word to make the definition. This is different than using the word in a sentence, which may not reveal the writer understands the word. Unfortunately, many of the questions on achievement tests do not adhere to this. As an example, on the STAAR grade 5 (2016) one question asked the student to determine the volume of a cube shaped box by using the one centimeter cubes like sugar cubes. Sugar cubes are rarely used today and the student may not have ever heard of them. If the student does not have knowledge of a sugar cube and in the differing context of the word 'cube' the student will not be successful.

In this presentation, we gave examples from released STAAR 2015 and 2016 tests which create difficulties for students. Activities to help remove some of the confusion were introduced as we discuss best practices in the teaching of elementary math. Hopefully we can help take some of the confusion out of the testing while giving you some ideas to help your teacher candidates become successful classroom teachers. For additional information contact Dr. Barba Patton, pattonb@uhv.edu.

***Understanding How the Gradual Democratization of the
United States Constitution Impacted the 2016 Presidential
Election Results***

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Introduction

The purpose of this paper is to increase the understanding of how the gradual democratization of the United States Constitution impacted the 2016 presidential election results. In other words, this paper explains how the expansion of the electorate by the Fifteenth Amendment (1870), the Nineteenth Amendment (1920), and the Twenty-sixth Amendment (1971) impacted the 2016 presidential election results in the six states that changed party allegiance.

Approximately 129 million people voted in the 2016 presidential election and this number represents 59% of the eligible voters. Democrat Hillary Clinton won 48.2% of the national popular vote and Republican Donald Trump won 46.1% of the national popular vote. In the 2016 presidential election, Republican Trump won 304 electoral votes or 56.5% of the 538 electoral votes for winning the popular vote in 30 states and Democrat Clinton won 227 electoral votes or 42.2% of the 538 electoral votes for winning the popular vote in 20 states. Seven electors voted against their pledged candidate because two electors voted against Republican Trump and five electors voted against Democrat Clinton (United States Presidential Election, 2016).

Six states (Iowa, Wisconsin, Michigan, Ohio, Pennsylvania, and Florida) changed party allegiance because Democrat Obama won each state in the 2012 presidential election and Republican Trump won each state in the 2016 presidential election. Iowa (6 electors), Wisconsin (10 electors), Michigan (16 electors), Ohio (18 electors), Pennsylvania (20 electors), and Florida (29 electors) accounted for 99 of the 304 electoral votes won by Trump in 2016 (The United States Elections Project, 2016).

First, this paper answers the question of how the 15th Amendment (Non-White Men Voters) impacted the 2016 presidential election results in each of the six states that changed party allegiance. Second, this paper answers the question of how the 19th Amendment (Women Voters) impacted the 2016 presidential election results in each of the six states that changed party allegiance. Third, this paper answers the question of how the 26th Amendment (Voters Ages 18-20) impacted the 2016 presidential election results in each of the six states that changed party allegiance. This paper concludes with an analysis of how the expansion of the electorate by the 15th Amendment (1870), 19th Amendment (1920), and 26th Amendment (1971) impacted the 2016 presidential election results in each of the six states that changed party allegiance.

Amendment 15 - Race No Bar to Vote

The Fifteenth Amendment (1870) states that the right of citizens of the United States to vote shall not be denied or abridged by the United States or by any State on account of race, color, or previous condition of servitude (Maddex, 2008). The Fifteenth Amendment (1870) first provided the right to vote to black men and then to all non-white men. Statistically speaking, I will first ask and then answer the question of how the 15th Amendment (Non-White Men Voters) impacted the 2016 presidential election results in each of the six states that changed party allegiance.

Voting by Men Groups in Six Key States

Six states (Iowa, Wisconsin, Michigan, Ohio, Pennsylvania, and Florida) changed party allegiance because Democrat Barack Obama won each state in the 2012 presidential election and Republican Donald Trump won each state in the 2016 presidential election (Fox News 2016 Presidential Election, 2016). Following are the 2016 presidential election results (featuring two key men groups) in each of the six states that changed party allegiance from the Democrat Party to the Republican Party.

According to the article, *2016 United States Presidential Election in Iowa (2016)*, Trump won 51.2% of the popular vote and Clinton won 41.7% of the popular vote in the 2016 Iowa Presidential Election. Men Voters were 47% of the 2016 Iowa Electorate because 4% were Non-White Men Voters and 43% were White Men Voters.

- Non-White Men Voters = 68% voted for Clinton and 26% voted for Trump.
- White Men Voters = 64% voted for Trump and 31% voted for Clinton.

According to the article, *2016 United States Presidential Election in Wisconsin (2016)*, Donald Trump won 47.2% of the popular vote and Hillary Clinton won 46.5% of the popular vote in the 2016 Wisconsin Presidential Election. Men Voters made up 49% of the 2016 Wisconsin Electorate because 7% were Non-White Men Voters and 42% were White Men Voters.

- Non-White Men Voters = 80% voted for Clinton and 18% voted for Trump.
- White Men Voters = 59% voted for Trump and 35% voted for Clinton.

According to the article, *2016 United States Presidential Election in Michigan (2016)*, Donald Trump won 47.5% of the popular vote and Hillary Clinton won 47.3% of the popular vote in the 2016 Michigan Presidential Election. Men Voters made up 48% of the 2016 Michigan Electorate because 12% were Non-White Men Voters and 36% were White Men Voters.

- Non-White Men Voters = 78% voted for Clinton and 18% voted for Trump.
- White Men Voters = 64% voted for Trump and 29% voted for Clinton.

According to the article, *2016 United States Presidential Election in Ohio (2016)*, Donald Trump won 51.7% of the popular vote and Hillary Clinton won 43.6% of the popular vote in the 2016 Ohio Presidential Election. Men Voters made up 47% of the 2016 Ohio Electorate because 9% were Non-White Men Voters and 38% were White Men Voters.

- Non-White Men Voters = 74% voted for Clinton and 23% voted for Trump.
- White Men Voters = 68% voted for Trump and 27% voted for Clinton.

According to the article, *2016 United States Presidential Election in Pennsylvania (2016)*, Donald Trump won 48.2% of the popular vote and Hillary Clinton won 47.5% of the popular vote in the 2016 Pennsylvania Presidential Election. Men Voters made up 47% of the 2016 Pennsylvania Electorate because 9% were Non-White Men Voters and 38% were White Men Voters.

- Non-White Men Voters = 73% voted for Clinton and 24% voted for Trump.
- White Men Voters = 64% voted for Trump and 32% voted for Clinton.

According to the article, *2016 United States Presidential Election in Florida* (2016), Trump won 49.0% of the popular vote and Clinton won 47.8% of the popular vote in the 2016 Florida Presidential Election. Men Voters were 47% of the Florida Electorate because 18% were Non-White Men Voters and 29% were White Men Voters.

- Non-White Men Voters = 67% voted for Clinton and 28% voted for Trump.
- White Men Voters = 68% voted for Trump and 25% voted for Clinton.

Votes by Non-White Men Impacted the Election Results

In 2016, the majority of Non-White Men Voters in each of the six states (Iowa, Wisconsin, Michigan, Ohio, Pennsylvania, and Florida) that changed party allegiance voted for Democrat Hillary Clinton. In 2016, the majority of White Men Voters in each of the six states (Iowa, Wisconsin, Michigan, Ohio, Pennsylvania, and Florida) that changed party allegiance voted for Republican Donald Trump. Statistically speaking, the 15th Amendment or the votes of the Non-White Men Voters did not help Iowa, Wisconsin, Michigan, Ohio, Pennsylvania, and/or Florida change party allegiance.

Amendment 19 - Women's Suffrage

The Nineteenth Amendment (1920) states that the right of citizens of the United States to vote shall not be denied or abridged by the United States or by any State on account of sex (Maddex, 2008). The Nineteenth Amendment (1920) provided women with the right to vote. Statistically speaking, I will first ask and then answer the question of how the 19th Amendment (Women Voters) impacted the 2016 presidential election results in each of the six states that changed party allegiance.

Voting by Gender Groups in Six Key States

Six states (Iowa, Wisconsin, Michigan, Ohio, Pennsylvania, and Florida) changed party allegiance because Democrat Barack Obama won each state in the 2012 presidential election and Republican Donald Trump won each state in the 2016 presidential election (Fox News 2016 Presidential Election, 2016). Following are the 2016 presidential election results (featuring two key gender groups) in each of the six states that changed party allegiance from the Democrat Party to the Republican Party.

According to the article, *2016 United States Presidential Election in Iowa* (2016), Donald Trump won 51.2% of the popular vote and Hillary Clinton won 41.7% of the popular vote in the 2016 Iowa Presidential Election. The 2016 Iowa Electorate had 53% Women Voters and 47% Men Voters.

- Women Voters = 51% voted for Clinton and 44% voted for Trump.
- Men Voters = 61% voted for Trump and 33% voted for Clinton.

According to the article, *2016 United States Presidential Election in Wisconsin* (2016), Donald Trump won 47.2% of the popular vote and Hillary Clinton won 46.5% of the popular vote in the 2016 Wisconsin Presidential Election. The 2016 Wisconsin Electorate had 51% Women Voters and 49% Men Voters.

- Women Voters = 53% voted for Clinton and 43% voted for Trump.
- Men Voters = 54% voted for Trump and 40% voted for Clinton.

According to the article, *2016 United States Presidential Election in Michigan* (2016), Donald Trump won 47.5% of the popular vote and Hillary Clinton won 47.3% of the popular vote in the 2016 Michigan Presidential Election. The 2016 Michigan Electorate had 52% Women Voters and 48% Men Voters.

- Women Voters = 53% voted for Clinton and 42% voted for Trump.
- Men Voters = 53.5% voted for Trump and 41% voted for Clinton.

According to the article, *2016 United States Presidential Election in Ohio* (2016), Donald Trump won 51.7% of the popular vote and Hillary Clinton won 43.6% of the popular vote in the 2016 Ohio Presidential Election. The 2016 Ohio Electorate had 53% Women Voters and 47% Men Voters.

- Women Voters = 49% voted for Clinton and 46% voted for Trump.
- Men Voters = 59% voted for Trump and 36% voted for Clinton.

According to the article, *2016 United States Presidential Election in Pennsylvania* (2016), Republican Donald Trump won 48.2% of the popular vote and Democrat Hillary Clinton won 47.5% of the popular vote in the 2016 Pennsylvania Presidential Election. The 2016 Pennsylvania Electorate had 53% Women Voters and 47% Men Voters.

- Women Voters = 55% voted for Clinton and 42% voted for Trump.
- Men Voters = 57% voted for Trump and 40% voted for Clinton.

According to the article, *2016 United States Presidential Election in Florida* (2016), Donald Trump won 49% of the popular vote and Hillary Clinton won 47.8% of the popular vote in the 2016 Florida Presidential Election. The 2016 Florida Electorate had 53% Women Voters and 47% Men Voters.

- Women Voters = 50% voted for Clinton and 46% voted for Trump.
- Men Voters = 52% voted for Trump and 43% voted for Clinton.

Votes by Women Impacted the Election Results

In 2016, the plurality of Women Voters in two states (Ohio and Florida) and the majority of Women Voters in four states (Iowa, Wisconsin, Michigan, and Pennsylvania) that changed party allegiance voted for Democrat Hillary Clinton. In 2016, the majority of Men Voters in the six states (Iowa, Wisconsin, Michigan, Ohio, Pennsylvania, and Florida) that changed party allegiance voted for Republican Donald Trump. Statistically speaking, the 19th Amendment or the votes of the Women Voters did not help Iowa, Wisconsin, Michigan, Ohio, Pennsylvania, and/or Florida change party allegiance.

Amendment 26 - Voting Age Set to 18 Years

The Twenty-sixth Amendment (1971) states that the right of citizens of the United States, who are eighteen years of age or over, to vote shall not be denied or abridged by the United States or by any State on account of age (Maddex, 2008). The Twenty-sixth Amendment provided voting rights to all citizens ages eighteen to twenty. Statistically speaking, I will first ask and then answer the question of how the 26th Amendment (Voters Ages 18-20) impacted the 2016 presidential election results in each of the six states that changed party allegiance.

Voting By Age Groups in Six Key States

Six states (Iowa, Wisconsin, Michigan, Ohio, Pennsylvania, and Florida) changed party allegiance because Democrat Barack Obama won each state in the 2012 presidential election and Republican Donald Trump won each state in the 2016 presidential election (Fox News 2016 Presidential Election, 2016). Following are the 2016 presidential election results (featuring two key age groups) in each of the six states that changed party allegiance from the Democrat Party to the Republican Party.

According to the article, *2016 United States Presidential Election in Iowa (2016)*, Republican Trump won 51.2% of the popular vote and Democrat Clinton won 41.7% of the popular vote in the 2016 Iowa Presidential Election. Voters Ages 18-20 were 4% of the 2016 Iowa Electorate and Voters Ages 21 or Over were 96% of the Iowa Electorate.

- Voters Ages 18-20 = 48% voted for Clinton and 39% voted for Trump.
- Voters Ages 21 or Over = 52.0% voted for Trump and 42.3% voted for Clinton.

According to the article, *2016 United States Presidential Election in Wisconsin (2016)*, Republican Donald Trump won 47.2% of the popular vote and Democrat Hillary Clinton won 46.5% of the popular vote in the 2016 Wisconsin Presidential Election. Voters Ages 18-20 were 4% of the 2016 Wisconsin Electorate and Voters Ages 21 or Over were 96% of the 2016 Wisconsin Electorate.

- Voters Ages 18-20 = 45% voted for Trump and 43% voted for Clinton.
- Voters Ages 21 or Over = 47.6% voted for Trump and 47.4% voted for Clinton.

According to the article, *2016 United States Presidential Election in Michigan (2016)*, Republican Donald Trump won 47.5% of the popular vote and Democrat Hillary Clinton won 47.3% of the popular vote in the 2016 Michigan Presidential Election. Voters Ages 18-20 were 5% of the 2016 Michigan Electorate and Voters Ages 21 or Over were 95% of the 2016 Michigan Electorate.

- Voters Ages 18-20 = 58% voted for Clinton and 35% voted for Trump.
- Voters Ages 21 or Over = 47.6% voted for Trump and 46.9% voted for Clinton.

According to the article, *2016 United States Presidential Election in Ohio (2016)*, Republican Trump won 51.7% of the popular vote and Democrat Hillary Clinton won 43.6% of the popular vote in the 2016 Ohio Presidential Election. Voters Ages 18-20 were 4% of the 2016 Ohio Electorate and Voters Ages 21 or Over were 96% of the 2016 Ohio Electorate.

- Voters Ages 18-20 = 54% voted for Clinton and 39% voted for Trump.
- Voters Ages 21 or Over = 52.6% voted for Trump and 42.5% voted for Clinton.

According to the article, *2016 United States Presidential Election in Pennsylvania (2016)*, Donald Trump won 48.2% of the popular vote and Hillary Clinton won 47.5% of the popular vote in the 2016 Pennsylvania Presidential Election. Voters Ages 18-20 were 4% of the 2016 Pennsylvania Electorate and Voters Ages 21 or Over were 96% of the 2016 Pennsylvania Electorate.

- Voters Ages 18-20 = 50% voted for Clinton and 45% voted for Trump.
- Voters Ages 21 or Over = 48.3% voted for Trump and 47.9% voted for Clinton.

According to the article, *2016 United States Presidential Election in Florida* (2016), Republican Donald Trump won 49.0% of the popular vote and Democrat Clinton won 47.8% of the popular vote in the 2016 Florida Presidential Election. Voters Ages 18-20 were 4% of the 2016 Florida Electorate and Voters Ages 21 or Over were 96% of the 2016 Florida Electorate.

- Voters Ages 18-20 = 63% voted for Clinton and 27% voted for Trump.
- Voters Ages 21 or Over = 49.2% voted for Trump and 46.4% voted for Clinton.

Votes by People Ages 18-20 Impacted the Election Results

In 2016, the plurality of Voters Ages 18-20 in two states (Iowa and Pennsylvania) and the majority of Voters Ages 18-20 in three states (Michigan, Ohio, and Florida) that changed party allegiance voted for Democrat Clinton. In 2016, the plurality of Voters Ages 18-20 in one state (Wisconsin) that changed party allegiance voted for Republican Trump. In 2016, the plurality of Voters Ages 21 or Over in the four states (Wisconsin, Michigan, Pennsylvania, and Florida) and the majority of Voters Ages 21 or Over in the two states (Iowa and Ohio) that changed party allegiance voted for Republican Trump. Statistically speaking, the 26th Amendment or the votes of the Voters Ages 18-20 did not help Iowa, Michigan, Ohio, Pennsylvania, and/or Florida change party allegiance. Statistically speaking, the 26th Amendment or the votes of the Voters Ages 18-20 did help Wisconsin change party allegiance.

Conclusion

The electorate born by the 15th, 19th, and 26th Amendments impacted the 2016 presidential election results in each of the six states that changed party allegiance. In 2016, the majority of Non-White Men Voters in each of the six states (Iowa, Wisconsin, Michigan, Ohio, Pennsylvania, and Florida) that changed party allegiance voted for Democrat Clinton. In 2016, the plurality of Women Voters in two states (Ohio and Florida) and the majority of Women Voters in four states (Iowa, Wisconsin, Michigan, and Pennsylvania) that changed party allegiance voted for Democrat Clinton. In 2016, the plurality of Voters Ages 18-20 in two states (Iowa and Pennsylvania) and the majority of Voters Ages 18-20 in three states (Michigan, Ohio, and Florida) that changed party allegiance voted for Democrat Clinton. In 2016, the plurality of Voters Ages 18-20 in one state (Wisconsin) that changed party allegiance voted for Republican Trump.

Statistically speaking, the 15th Amendment (Non-White Men Voters) helped zero of the six states (Iowa, Wisconsin, Michigan, Ohio, Pennsylvania, and Florida) change party allegiance. Statistically speaking, the 19th Amendment (Women Voters) helped zero of the six states (Iowa, Wisconsin, Michigan, Ohio, Pennsylvania, and Florida) change party allegiance. Statistically speaking, the 26th Amendment (Voters Ages 18-20) did not help five states (Iowa, Michigan, Ohio, Pennsylvania, and Florida) change party allegiance and did help one state (Wisconsin) change party allegiance. Basically, that is how the expansion of the electorate by the 15th Amendment (1870), 19th Amendment (1920), and 26th Amendment (1971) impacted the 2016 presidential election results in each of the six states that changed party allegiance.

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Capturing Identity:
How To Create A Historical Departmental Documentary

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Introduction

Every organization, department, or individual has an unique identity that captures their essential nature. However, understanding and then sharing that identity can be complicated. Today when access to information — though not always factually accurate — is seemingly limitless, it is not only of great import to tell these stories, but to also find a means of reaching audiences through them. One way to both effectively learn about and convey an identity is through the medium of documentary filmmaking. When making a documentary, there are many things to consider. Why is there a desire to make a documentary? What are the steps required to access to the equipment and information necessary for the creation of a project this large? How does one begin the process of creating a documentary, or even organize the materials needed to construct a history? Even though constructing a visual history of a department might seem like a daunting task it nevertheless is very important to consider what can be gained through this documentation. Not only does it provide a means of learning about a department's past, but also how the past influences the present, and how understanding the strengths and weaknesses of the department can improve its future. Taking on a task such as this helps the department on the macro level and also helps to preserve the personal: the memories, the stories, the experiences of those involved in the history of the department.

Understanding the value of utilizing the past to inform the present and future, the Education Department at St. Olaf College constructed its own visual history. The idea for a documentary first formed after the death of Dr. Myron Solid, a former chair of the

department and a part of the St. Olaf community for thirty-three years. With his passing, the department not only lost a professor, mentor, and friend, but also the stories and experiences that were a part of him and the college. In order to prevent the future loss of personal and departmental history, Professor Heather Campbell and Professor Robert McClure began forming the basis of the project. Our project was funded in part by the “To Include is to Excel” grant provided by the Andrew Mellon W. Foundation and the Collaborative Undergraduate Research and Inquiry (CURI) grants. The mission of the “To Include is to Excel” grant is to uncover and enact new ways to diversify the St. Olaf campus. CURI is an undergraduate research program at St. Olaf that funds many projects throughout the summer in all academic disciplines.

With only ten weeks to complete the project, much needed to be done. Initially, we would need to access the St. Olaf archives to uncover any artifacts that might be useful for our research. In addition, a documentary illustrating the history of the department – created through archival artifacts and interviews with faculty and staff – would need to be filmed and edited. As a compliment to the documentary, a written history of the department from its establishment in 1911 to up until the present-day would also need to be created. Finally, we were given the task of organizing all of our findings and artifacts into an easy-to-use online database, as well as creating a website for the project itself.

The Planning Stages

When building a history, we found that the most important thing to do is to organize. With our limited time frame, we gave ourselves two weeks to make

connections with possible interviewees, four weeks to conduct interviews and gather archival materials for our digital archive, three weeks to edit the documentary and write the historical paper, and one final week to finalize our project. While there was much overlap between the various undertakings necessary to complete our project, it was very beneficial that we set this schedule for ourselves. Whether it be making plans far in advance or keeping track of physical records, knowing what needed to be done and when it needed to be done by saved us much time and energy.

We began contacting possible interviewees, scheduling visits to the archives, and checking out equipment necessary for the completion of the project after our deadlines were set. Before each interview, we went through our equipment checklist to make sure that everything was packed, charged, and ready to go. All of the equipment was provided by the St. Olaf Digital Scholarship Center (DiSCO), with the exception of the camera, which was provided by Flight Creative Media. The camera used was a Sony a6500. In addition to the camera, we also used a tripod, a condenser microphone and a boom pole, headphones, extra batteries and chargers, paper and pens for note taking, printed interview questions, and video-photo permission forms, which had to be signed by the interviewees prior to each interview so that we could use the audio and video collected of them. Before the filming for our documentary could even begin, we needed to be sure that we were prepared for whatever obstacles we might encounter over the course of the summer.

Organization and Execution

Having some prior experience in conducting and filming interviews, we began scouting possible filming locations: areas that were both visually appealing as well as recognizable to those associated with St. Olaf College. Lighting was an easy-to-overlook factor that needed to be considered. When we decided to film in a location with large amounts of natural lighting, it was important that we did so during a period of clear skies or constant overcast; any fluctuations of light outside could easily be noticed in the footage later. Filming in a room with little or no natural light made it easier to control the light in the room and on the interviewee, but required an additional lighting kit. The key to making each interview as efficient as possible was to plan out even the smallest details. After we began to hear back from the students and staff that we had contacted, we planned out a time and place for each interview, providing a minimum of thirty minutes between each interview to allow for equipment takedown, transportation, and setup. With each additional interview completed, we became more efficient in our process. By the end of the ten-week period, we had conducted twenty-four interviews, and had collected over twenty hours of footage.

While as a team we found ourselves to be both efficient and easily adaptable, we were confronted with a brief moment of uncertainty during the second week of our project. How does one complete a project of this scale? To organize a history, where does one first look? When creating a documentary or any film project, organization — as previously discussed — is crucial. With over one-hundred years of history to cover, we decided to create a physical timeline in order to organize our thoughts. The timeline

encircled our entire cubicle, and consisted of color-coded notes detailing important figures, dates, and events within the department since its establishment. We began filling in the timeline by accessing the online college histories provided by the school archive. The information that we gathered from Joseph M. Shaw's *History of St. Olaf 1874-1974* (1974) and *Dear Old Hill: The Story of Manitou Heights, the Campus of St. Olaf College* (1992) provided us with a factual foundation for our project, though many gaps were left to be filled.

After the first three interviews had been conducted, the editing process began. Each interview was cut into individual questions and answers. Similar responses were grouped together, and related groups were placed near each other on the digital timeline within the editing software. This organization of groups would later allow for easier accessibility and a more fluid transition between topics in the final drafts of the film. Each interview was also trimmed, removing the unnecessary pauses and filler words from each conversation. With each additional interview, however, came new hurdles and new breakthroughs. The questions posed to the interviewees were adapted to help fill in the gaps of our timeline, yet new questions resulted in a more cluttered editing space. Though in total we were working with very large amounts of footage after the interviews had concluded, our digital workspace was kept well-trimmed and well-organized.

The collecting, trimming, and organizing of these interviews carried on into the seventh week, with about six hours spent on these tasks each day. During this time, archival footage, photographs, and audio recordings were also being gathered and

digitized for the sake of supplementing the interviews. With just short of three weeks left to complete our project, we were faced with yet another difficult question: how should the documentary be structured? While we had been organizing the interviews and B-roll into categories on the editing timeline, we had not yet decided on a set style for the final product. Each interview was already structured for an expository documentary — a documentary in which the viewer is directly addressed. We had recorded all of the audio from the interviews, so we briefly considered including our own voices in the documentary making the end result a more participatory product. We also considered replacing our own voices with text, still allowing viewers to understand the questions being asked, though in this form, we — the filmmakers — would be more removed from what was being said on screen. We struggled with these ideas for awhile, but eventually we began to think more about what our overall goal was for the project. This documentary was being made not for the purpose of recording the historical facts and figures of the St. Olaf Education Department, but to instead gather and preserve that which was at the greatest risk of being lost: the personal stories within the department. After Myron Solid's passing, it was not the data on popular licensures, enrollment numbers, or offered courses that were lost. What was lost were Myron's stories with the department, how the department shaped him, and how he in return shaped the department. It was after this realization that we decided to remove the questions entirely from the interviews. Instead, we spent the next few weeks weaving each interview into one long, connected narrative, incorporating both the historical and the personal into our finished film. After having spent a large amount of time working with this footage, it was

hard to remove portions of it from the final draft. Though it was hard to shift our focus and discard certain elements of our film that we had spent much time working on, in the end, we were able to create a more well-rounded and impactful product by making these adjustments.

Digital Archive

While the documentary was our principle method of disseminating our research material, we needed a way to preserve our findings and historical artifacts. Therefore we created a digital archive where we could preserve our own interviews, along with historical photos, documents, and videos that were stored in the St. Olaf College archive. We created our archive through the digital content library program Elevator (Digital Collections, 2019). Elevator is administered through St. Olaf College. We selected Elevator because we wanted to create a more accessible format of our research materials. For example, instead of requesting items from the college archives, people now can view all of the historical artifacts online with ease.

The archival process took a significant amount of effort and many steps. We first had to find the appropriate sources from the college archive and then scan and digitize all of the sources and imputed their information such as date, author, important people onto a Google spreadsheet. We then coded each source by a series of seven key words. Some examples included “photos,” “teaching materials,” and “yearbooks.” This data from the spreadsheet was then directly inputted into the Elevator system. This process automatically generated a digital archive where people can search through our historical material by keywords and categories. In total, we had over 300 artifacts

collected and coded into our digital archive. Now the St. Olaf College Education Department has easy access to its past and its history is digitally preserved (History of Education Department, 2019). Once completed the Elevator site link was put onto the St. Olaf Education Department website so that the greater public has access to this historical material. Archiving our material is important as it ensures that this material can be used for future historical projects and is accessible to a wide variety of people.

Using the College Archives

Accessing the archives proved to be quite a difficult task. Prior to the 2018 CURI session, the St. Olaf archives began a remodeling project that resulted in the movement of, and therefore inability to access, certain documents necessary for our project. While in the end we were able to access a majority of the files needed, the process of gathering these files took much longer. In some instances, it took several weeks to view the artifacts that would serve as the historical foundation for our entire project. From this inconvenience, we learned to adapt by creating a master list of all required resources for the entire summer and then sending them to the archives in order to gather as many photographs, videos, audio files, papers, and letters as possible, as soon as possible. As soon as we learned which artifacts we would be unable to access, we began to look for alternative supplementary materials, and in some cases, cuts to our projects needed to be made due to a lack of supporting data. One of the most difficult aspects of our CURI project was coming to terms with the fact that we had no way of showing everything. We would be the ones in charge of deciding which elements of the department's history would be left for future projects.

Historical Narrative

From our research we wrote a historical narrative that detailed the history of the department. It was important to have a written record of our research to compliment the documentary video because they served different aims. The documentary sought to unearth and share various personal stories, while the narrative focused more on historical facts, numbers, and underlying trends. The entire document consists of over 30 pages and an abridged version is detailed below. Since its establishment in 1874, St. Olaf College has educated students in the liberal arts and prepared them for fulfilling vocations. Central to this college-wide mission has been the St. Olaf Education Department. Founded in 1911, the St. Olaf Education Department has been dedicated to preparing effective teachers who possess exemplary knowledge in academic content and pedagogy. Even from its earliest years, the department has consistently emphasized the importance of community-minded teachers who are skilled at working with diverse students. Although the department's faculty, staff, students, and curriculum have changed, the department's mission to advocate for the betterment of all people in society remains constant. While this mission has been tailored to different settings and contexts over the past 108 years, its importance has never diminished. Overall, the dual commitments of preparing adept teachers and striving for educational opportunity transverses the history of the St. Olaf Education Department.

The history of the department can be broken into four different time periods. Each period represents a particular historical context where the department experienced many successes and challenges. The first period was the department's

formative years. Throughout the early years of St. Olaf College, faculty and students alike declared that St. Olaf only prepared “Teachers and Preachers” (Privileges and Responsibilities, 1917). While the “preacher” component is quite evident as St. Olaf has always been affiliated with the Lutheran Church, the “teacher” component is not as apparent. For example, St. Olaf is a liberal arts college, not a “teachers college” or a state normal school which trained the vast majority of teachers in the early 20th century (Fraser, 2007). Nevertheless, St. Olaf garnered a strong reputation as a college to prepare teachers, and teacher education played a significant role at the college in the first half of the 20th century. In fact, education was so popular that one student in 1916 decried that St. Olaf neglected other professions by focusing so heavily on education. He stated, “Our college, however, furnishes no adequate means for spreading an intimate *knowledge* of the other vocations” (The Balance of Vocational Influence, 1916, p. 1). The strength of the Education Department at St. Olaf was due to the dedication and experience of progressive faculty members along with favorable national trends in teacher education.

By 1961 the department had firmly established itself on campus and a new era arrived at the department, however in the coming decades a series of challenges would arise. For example, the department failed at its first attempt to be accredited by the National Council for Accreditation of Teacher Education (NCATE), and by 1975 the department's enrollments started to decrease. However, the department viewed these challenges as opportunities to further the mission of educational opportunity and to produce quality teachers. Overall, the department was able to overcome these

challenges because of forward-looking leaders who created new opportunities for education students to teach diverse students and culturally aware.

The trend of quality leadership continued in the next stage from 1987-2009, where chairs Myron Solid and Mark Schelske who were dynamic, passionate, perceptive leaders who dedicated their entire life to advancing educational opportunity and equity. New programs were created such as the multicultural education class in Hawaii, and the department sought funding for the TRIO programs (Student Support Services, Upward Bound, Educational Talent Search, McNair program) on campus. The department embraced a mission to help resolve educational inequities by preparing culturally responsive teachers.

Since 2009, the department has sought to deepen its presence on campus and increase its enrollment even in face of declining national trends in enrollments in teacher education programs. Currently, the St. Olaf Education department is experiencing a series of challenges that are affecting teacher preparation programs across the nation. For example, there is a local and national lack of teachers who share the backgrounds of an increasingly diverse student population. The department chair and other faculty members at St. Olaf are increasingly looking for ways to mitigate these challenges. For example, the department is funding research that is looking into strategies used by other colleges to diversify their student populations and also creating promotional items to help motivate more students to choose teaching as a profession. Similar to past challenges in the department, the St. Olaf Education Department is dedicated to using them as a catalyst for growth.

Unearthing the St. Olaf Education Department's history elicits a greater understanding of a unique identity and enduring mission. It allows for a reflection of the past while providing guidance for the future. Since 1911, its past leaders and students built and expanded on recent successes. The department has consistently lead the way by offering new innovative classes and incorporating new methods of teaching. Although challenges have existed, the department has been resilient and continuously looks for ways to grow. Overall, the St. Olaf Education Department has been the home of progressive leaders and educators, who have produced thousands of exceptional teachers who have gone on to teach and influence millions of students.

Presentations

After the 10-week period of our project we shared our findings in a variety of different formats that were all targeted towards different audiences. To do this, we created a poster detailing the process of our work and our historical findings. This poster was shared at the CURI Research Symposium in August 2018. Our audience was predominantly other student researchers and their faculty mentors. Later that day we presented our documentary to our participants who were filmed and their family members. It was a nerve-wracking experience as the seats began to fill up for this screening, as it was the first time the documentary had been shown in its entirety. The documentary began to play, and what followed reminded us of why this project needed to be done in the first place. Seeing a room full of past and present members of the St. Olaf Education Department together in a room talking, reminiscing, laughing, and crying was truly a special moment. In the end, our project consisted of more than just a film

and a digital archive. It allowed for a historical reunion, a means of connecting with past colleagues and friends, and an environment to be reminded of the vitality of a quality education program. Finally, in October 2018 we had one final screening of our film that was open to the entire campus. We invited admissions, faculty, staff, and students. Overall, there were more than 70 people who attended, including the President of the college and various deans. The event was promoted across campus through posters, emails, and digital flyers. We especially wanted to showcase this history to the college administration because unfortunately for much of the department's history they did not recognize the Education department's role on campus. Additionally, we wanted to highlight the department's commitment to prepare quality teachers who were committed to greater equitable educational outcomes. Overall, we knew that the faculty, staff, students and the administration needed to see the film to garner a more comprehensive understanding and appreciation for the department's work.

Conclusion

Capturing and sharing the Education Department's unique identity was imperative as it helps foster an understanding of guiding principles, fond memories, and overall purpose. Film is an effective medium to convey this process because it allows viewers to fully immerse themselves in the stories being presented to them. Through this immersive storytelling, a genuine connection is formed between the viewer and what is being presented on the screen. The St. Olaf College Education Department benefited from the documentary film because it strengthened the sense of community among current and former faculty, staff, and students. Additionally, by understanding

the department's past we can be better attuned to its current situation. Overall, every organization, department, or individual has an identity that is worth researching, reflecting on, and sharing with others. Through the hurdles we faced and the mistakes we made while making this documentary, we learned that while we did want to present the history of St. Olaf education in a high-quality fashion, what was truly significant was the stories being told. Anyone — no matter the equipment or experience or background — can make a film, as long as they have a story to tell.

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**THE ORACLE-BONE INSCRIPTIONS AND COGNITIVE SCIENCE:
INSIGHTS AND CONTRIBUTIONS OF PROFESSOR LI XUEQIN (1933-
2019)**



Yuting Yang

Southwest Jiaotong University & Chengdu University



**1. ORACLE-BONE
INSCRIPTIONS &
PROF. LI XUEQIN**

李學勤

(1933.3.28. – 2019.2.24.)



Li Xueqin

From Wikipedia, the free encyclopedia

For the Chinese Olympic skier, see [Li Xueqin \(skier\)](#).

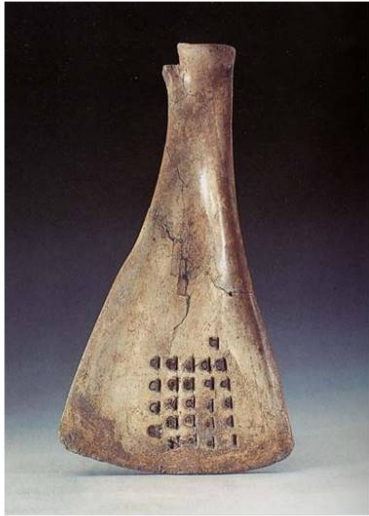
This is a Chinese name; the family name is [Li](#).

Li Xueqin (Chinese: 李学勤; Wade–Giles: *Li Hsüeh-ch'in*, 28 March 1933 – 24 February 2019) was a Chinese historian, archaeologist, and palaeographer, who was widely considered the most important Chinese historian of his time.^{[1][2]} He served as Director of the Institute of History of the [Chinese Academy of Social Sciences](#), Professor and Director of the Institute of Sinology of [Tsinghua University](#), Chairman of the Pre-Qin History Association of China, and Director of the Xia–Shang–Zhou Chronology Project.^[2]

Li was born 28 March 1933 in [Beijing](#), Republic of China.^[3] After finishing middle school in 1948, he tested number one in the entrance examination of the [electrical engineering](#) department of the National Beiping High School of Industry. However, he was unable to attend the school because a medical examination misdiagnosed him with [tuberculosis](#).^[4] After graduating from high school, he was admitted to [Tsinghua University](#) in 1951, where he studied [philosophy](#) and [logic](#) under professor [Jin Yuelin](#).^[4]

At Tsinghua, Li's main hobby was studying the [oracle bones](#) in the library, putting together pieces of oracle bones like puzzles.^[5] At the same time, scholar [Guo Ruoyu](#) (郭若愚) was writing a book on the oracle bones. [Chen Mengjia](#), the oracle bones expert, thought the book needed more work, and recommended Li to assist Guo in his work.^[4] Li was thus "borrowed" by the [Institute of Archaeology of the Chinese Academy of Sciences](#) to become a research assistant to Guo and Chen.^[4]

In 1954, Li moved to the Institute of History of the Chinese Academy of Sciences (later of the [Chinese Academy of Social Sciences](#)). In the 1950s, he systematically collated [Shang dynasty](#) oracle bones excavated from [Yinxu](#), studied the events and historical geography from the oracle scripts, and identified oracle bones from the [Western Zhou](#) period. In the late 1950s, he studied the [bronze inscriptions](#), pottery inscriptions, [seals](#), [coins](#), [bamboo and wooden slips](#), and silk texts from the [Warring States period](#), facilitating the formation of a new branch of Chinese [paleography](#).^[3]



- Dragon Bones Discovered
- Fragments Jointed
- Geographic cognition
(《殷代地理简论》)

2. PROF. LI, JIAHU & COGNITIVE SCIENCE

“The Earliest Writing?
Sign Use in the Seventh
Millennium BC at Jiahu,
Henan Province, China”

Antiquity Vol. 77, Issue
295, 31-44

The incised marks were noted on fourteen fragments of tortoise shell (genus *emydidae*, species *Cuora flavomarginata*), and some marks were also found on bone. Initially, some 16 signs were recognised, but intensive scrutiny has reduced the number of definitely incised signs to eleven, of which nine were on tortoise shells and two on bone. In the following presentation of the signs, we indicate where appropriate a Shang-period sign having a formal similarity, drawn from the examples found at the site of Yinxu (see below). We do not, however, wish to imply that the Jiahu sign necessarily had the same *meaning* as the later Shang (Yinxu) character.

Most of the 11 signs date to the second period (6600 to 6200 cal BC). One of the most important contexts was Grave M344 (dated to 6520 cal BC) which contained an adult male whose head was missing (Henan 1999, colour plate 7, B/W plate 22). Instead of the head were placed eight sets of tortoise shells (i.e. carapace + plastron) and one forked-shape bone artefact (Henan 1999: colour plates 39, 40). Of special interest is one nearly complete plastron (Henan 1999: colour plate 47) pierced with a hole which may have been used with a thong to bind the plastron to its corresponding carapace. On the lower middle part an eye-shaped sign:



2.M344 : 18 龟腹甲

契刻原始文字

was found, which greatly resembles the character for “eye” in the Yinxu inscriptions. The fork-shaped artefact was also faintly marked. Another plastron was incised with two vertical strokes, fairly similar to the character for “twenty” in the Yinxu inscriptions.

There are several trends and characteristics to which we would call attention.

- 1 In most cases the signs are prominently displayed, for example at the middle of a plastron, or in the marginalia of a carapace, both of which would facilitate viewing.
- 2 The signs are obviously intentional and significant. They are not accidental scratches, doodles, or tooth-marks of animals.
- 3 The signs are consistently oriented to be “read” with the plastrons inverted.
- 4 In some cases, where more than one incised shell was found in a single grave, the signs are *all different*, suggesting that they cannot *all* denote the specific deceased individual, or be his “clan sign”.
- 5 There are cases where two different signs are found on the same plastron, again inconsistent with the idea that these are all clan signs.
- 6 Sign-occurrence appears to be correlated with tortoise shells, with musical instruments, with presumed ritual fork-shaped objects and generally rich grave furnishings of carved bone. In several cases, the sign found is the single downstroke.
- 7 Some pairs of tortoise shells have holes near the edge, through which the carapace and plastron could be linked with a thin cord, forming a “box”. The plastron-carapace “boxes” all contained groups of pebbles, apparently carefully chosen for size and colour. The numbers of pebbles per shell varies widely: no obvious pattern can be seen in the numbers.

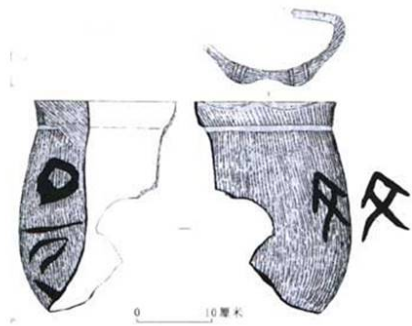
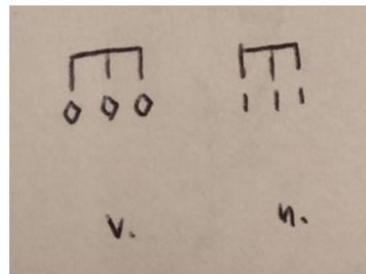


图1 山西陶寺遗址出土朱书“文”字陶壶 (13403)
及“文”字摹本



3. PROF. LI, ORACLE BONE INSCRIPTIONS & COGNITIVE SCIENCE

“The Study of the Origins of Chinese Characters/Writings is an Important Scientific Project”

文字起源研究是科學的重大課題

《中國書法》

“On the Examples of the Same Characters written in Different Forms in the Oracle Bone Inscriptions”

甲骨文同辭同字異構例

《江漢考古》

雨 RAIN:

**VERB/DIAMONDS
VS NOUN/SHORT LINES**

Li Xueqin:

How did human being start to use symbols? How were symbols developed into writing characters?

In addition to archaeology, we should also rely on cognitive science.



“人类怎样开始使用符号，符号又是如何演变成为文字，极有研究价值……真正解决问题，除了依靠考古学以外，应该还要与认知科学相结合。”

Human Cognition Project & NBIC (Nanotechnology, Biotechnology, Information Technology and Cognitive Science)

(《科学中国人》2003年第12期)



Professor Li's research provides insights into the relationship between Oracle Bone inscriptions and cognitive science. The evolution of early symbols should be combined with cognitive science.





THANK YOU



