

National Social Science Proceedings

National Technology and Social Science Conference

Las Vegas, Nevada

March 25-27, 2018



National
Social
Science
Association

Volume 67 #1

NATIONAL SOCIAL SCIENCE PROCEEDINGS

Volume 67 #1

National Technology and Social Science Conference, 2018

Table of Contents

<i>U.S Economy, Construction Industry, and Residential Market Crisis and Recovery, 2000-2015: A Summary</i> Ebenezer Aka, Morehouse College	1
<i>The Emerging Role of Artificial Intelligence in Human Service Delivery and Education: A Conceptual Overview</i> Randall E. Basham , The University of Texas at Arlington	45
<i>Obstacles to Judicial Redistricting</i> Christopher M. Baxter, The University of Tennessee at Martin	54
<i>CRISPR and Patent Law: Molecular Biology Is Not the Only Thing That Is Confusing!</i> Justin Burum, Minnesota State University, Mankato Sue Burum, Minnesota State University, Mankato	63
<i>Enhancing Academic Publishing Skills</i> Thomas J. Buttery, Austin Peay State University	80
<i>Youth and Teenage Suicide Prevention: Changing the Mindset</i> Thomas J. Buttery, Austin Peay State University John R. McConnell III, Austin Peay State University	89
<i>Affirmative Action in Brazilian Higher Education and its Challenge to Hegemonic view of Racial Democracy</i> Luciano N. Cruz, College of the Canyons	101
<i>New Technologies and Applications for Developing Cross-Cultural Competencies and World Languages Skills</i> Evelyne Delgado-Norris, Chicago State University	110
<i>Conservative Politics in Turkey: The Determinants of Discourse Construction</i> Birol Demircan, Gazi University, Ankara/Turkey	119
<i>The Vietnam War in Film: Course Materials for the Fiftieth Anniversary Celebration</i> Jackson Berry, Graduate Teaching Assistant, Central Washington University Hunter Gunderson, Central Washington University Rex Wirth, Central Washington University	130

***The Use of Empirical Evidence and “Craft Knowledge”
in Principal Preparation Programs***

Joseph Hunter, Western Washington University

137

***A Historical Perspective on the Literature:
Best Practice for Principal Preparation***

Joseph Hunter, Western Washington University

146

U.S Economy, Construction Industry, and Residential Market
Crisis and Recovery, 2000-2015: A Summary

Ebenezer Aka
Morehouse College
Atlanta, Georgia

U.S ECONOMY, CONSTRUCTION INDUSTRY, AND RESIDENTIAL MARKET CRISIS AND RECOVERY, 2000-2015: A SUMMARY

Introduction

Construction industry that comprises of both private and public constructions, is a major contributor to U.S economy. Private construction includes the residential and non-residential categories. Residential construction includes single family houses and apartments, while non-residential construction includes factories, offices, hotels, motels, churches, hospitals, and private schools. On the other hand, public construction covers highways, streets, military reservations, water supply facilities, public school buildings, housing projects, and sewer systems (Associated General Contractors, 2016). Generally speaking, the following items, among others, come under the purview of construction industry: construction of houses, schools, office buildings, roads, bridges, airports, railways, irrigation system, power system, hospitals, townships, water supply system, and drainage and sewerage system (Economic Watch, 2010).

Construction industry plays a major role in industrial and infrastructural development in any country, especially in generating employment and income. In the U.S, many jobs are created every year by the U.S construction industry. Currently, the industry has more than 650,000 employers with over 6 million employees and creates nearly \$1 trillion worth of structures each year (Associated General Contractors of America, 2016). In 2015, the industry added an average of 25,000 jobs per month (Bureau of Labor Statistics, 2016). According to Economic Watch (2010), the share of construction industry in the total gross domestic product (GDP) in the United States has average 8.3 percent over the years.

In the U.S, construction is one of the largest customers for manufacturing, mining, and a variety of services. The activities of construction industry are carried out in conjunction with other major sectors such as insurance, manufacturing, financial, and many other regulatory bodies of the society. According to Economic Watch (2010), the principal aim of the U.S construction industry is to develop competitiveness in the global construction sector; federal and state governments providing all types of financial encouragement to help the industry flourish; and also employing the use of latest technology to improve quality of construction works. It also aimed to bring about some positive changes in the infrastructural facilities offered for private and public sectors through technological innovations for more efficient and cost effective way.

In the economy, construction spending represents a significant portion of gross domestic product (Bureau of Economic Analysis, 2016). It impacts financial markets, such as interest rates, stock prices, and exchange rates. In fact, construction spending is an important source of information, which gives clues about the overall economy. For example, the construction industry, as a leading indicator, is one of the

first drivers of the economy to go into recession when the economy declines, and likewise, the first to recover as conditions improve. This should be apparent later as we analyze U.S economic cycle from 2000 to 2015.

The housing industry or residential sector contributes to gross domestic product and does this in two ways, through Private Residential Investment and Consumption Spending on housing services. Residential Investment is a component of the Gross Private Domestic Investment that also includes the other two components, Non-residential Investment and Change in Inventories. The Gross Private Domestic Investment is an aggregate component of expenditures on capital goods used in the domestic economy. It measures investment expenditures made by the private sector. The Residential and Non-residential expenditures constitute the Fixed Investment totaling about 95 percent to 97 percent of Gross Private Domestic Investment (Mathews, 2012). According to Mathews (2012), Gross Private Domestic Investment is a critical component of the GDP, as it provides an indicator of the future productive capacity of the economy, and traditionally amount to about 14 to 18 percent of the GDP (see also Bureau of Economic Analysis, 2016).

The Fixed Investment and Change in Private Inventories are components of overall Business Investment. According to Bureau of Economic Analysis (see BEA monthly Durable Goods Order Report), Business Investment includes purchases that companies make to produce consumer goods. Residential Fixed Investment constitutes Construction Spending (value put in place): construction of new family and multifamily structures including condos and town houses, residential remodeling, production of manufactured homes, and brokers' fees (Bureau of Economic Analysis, 2016). Non-residential Investment consists of expenditures by firms on capital, such as commercial real-estate, tools, machinery, and factories. Most fixed investment is non-residential investment in commercial real-estate construction, including business equipment such as software, capital goods, and manufacturing. In fact, this makes Fixed Investment a good leading economic indicator. Real Estate (whether commercial or private) is really a significant component of the economy, especially through the construction jobs. Real Estate is the property, land, buildings, air rights above the land and underground rights below the land. The term real estate means real or physical property or thing, and when this sector weakens, everyone feels it (Amadeo, 2016).

Purpose of Study

The study explains the role Construction and Residential sector plays in U.S economy, especially during the business cycles from 2000 to 2015. How this component of Gross Private Domestic Investment impacted Gross Domestic Product (GDP) growth rates in U.S and its regions during this period of "Boom-Bust" cycle is also analyzed. More importantly, the study focus is on how the construction and residential sector influenced

the leading and lagging economic indicators that likely caused the “bull” and “bear” markets during the period. The crucial question is, has this sector also helped in any way to create the “Goldilocks” economy or the healthy-state economy currently being witnessed in the country since 2012? More so, what have been governments’ (federal, state, and local) responses for market corrections during the business cycles? What were the implications of the responses for economic growth and development planning? Several recursive and proximate variables were analyzed to answer the above crucial questions. Finally, some policy suggestions and recommendations, as well as possible solutions were proffered for a healthy U.S economy.

Theoretical Framework for the Study

Business cycle or economic cycle, according to Amadeo (2017), is the natural rise and fall of economic growth that occurs in any economy over time. The boom-bust cycles in the economy are the alternating phases of economic growth and decline, according to National Bureau of Economic Research (NBER) (2017). Whether called business cycle or economic cycle, or boom-bust cycle, each helps to create both the bull and bear markets in the economy, which reflect investors’ and consumers’ attitudes and their responses to the extant economic conditions. Business cycles have four phases, which include expansion, peak, contraction, and trough phases that impact leading and lagging economic indicators. A bull market is when any asset class (e.g. stocks, bonds, gold, and other commodities such as housing) rises in value over an extended time. Consequently, investors think prices will always go up, and subsequently enter a state of irrational exuberance; and thus, bid prices way above any underlying value. The process creates an asset bubble that will inevitably burst and the prices crash, which could drop very low, and could lead to a market correction. On the other hand, a bear market is when the investor or consumer confidence collapses as a consequence of the bursting of asset bubble, and prices continue to fall over an extended period; they believe prices will continue to fall; and when prices fall 20 percent or more, the asset class inevitably descends into a bear market, which may lead to economic recession (Amadeo, 2017).

The leading economic indicators are statistics that precede economic events. In fact, they predict the next phase of the business cycle, and are the first data point in an economic cycle. Such indicators include Durable Goods (e.g. big ticket items as machinery, automobile, and commercial jets) Order Report; Interest Rates (falling or rising); and stock market prices, all predict the health of businesses, and by implication, the overall economy. On the other hand, the lagging economic indicators are statistics that follow an economic event, and they either confirm or refute the trend set by the leading indicators, e.g. unemployment rates (falling or rising). The Index of Leading Economic Indicators, published by U.S Conference Board, include Money Supply, which affects liquidity (the amount of money that is quickly available for investment and

spending); Consumer Expectations, which depend on the employment rate; and Weekly Claims for Unemployment (job report), which measures unemployment (The Confidence Board, 2016; Gould, 2016).

The Expansion Phase of the business cycle is between the Trough Phase and Peak Phase (Amadeo, 2017). In this phase, the economy is growing and the growth rate of gross domestic product (GDP) that measures economic output is positive and in the healthy range of 2-3 percent (NBER's Business Dating Committee, 2010). It is worthy to know, according to NBER, that economic activity is usually and typically below normal in the early stages of an expansion phase, and sometimes remains so well into the expansion. The second phase is the Peak, which is the month when the Expansion Phase transitions into the Contraction Phase. The third phase is Contraction, which starts at the Peak and ends at the Trough. At this juncture, the economic growth weakens and the GDP growth falls below 2 percent, and when it turns negative, it becomes a recession. A recession is a period of falling economic activity spread across the economy, lasting more than a few months (usually two consecutive quarters), and normally visible in real GDP, real income, employment, industrial production, and wholesale-retail sales. The fourth phase is the Trough; and this is the month when the economy transitions from the contraction phase to the expansion phase. Actually, it is when the economy hits bottom, which marks the end of the declining phase and the start of the rising phase of the business cycle. According to NBER (2010), identifying the date of the trough involved weighing the behavior of various indicators of economic activity, especially the two broadest measures, real Gross Domestic Product (real GDP) and real Gross Domestic Income (real GDI). The NBER checks the Index of monthly GDP; Index of monthly GDI; Real manufacturing and Trade sales; Index of industrial production; Index of personal income less transfers; Aggregate hours of work in total economy; and Employment (NBER, 2010). Indeed, when the economic and business cycle's four phases become very severe, the resulting phenomenon is also called boom and bust cycle--- the alternating phases of economic growth and decline (NBER, 2017).

We have seen from the above discussions that, during the boom cycle, economic growth is positive, and reflected especially by GDP increase; GDP is likely to remain in the healthy 2-3 percent range, and can stay in this phase for many years; and it is usually accompanied by the bull market, exemplified by certain economic indicators, such as rising housing prices, wage growth, and low unemployment. Usually, the boom phase does not end unless the economy is allowed to overheat, leading to asset bubble that should inevitably burst due to the irrational exuberance of investors, who bid asset prices way above any underlying value. An asset bubble is when the price of an asset, such as housing, stocks, or gold become over-valued. On the other hand, during the bust phase that usually only last for 18 months or less, the GDP growth rate turns negative; unemployment rate is 7 percent or higher; and the value of investments falls,

and may lead to recession after 3 months (Amadeo, 2017). According to Amadeo, the bust phase is most of the time brutish, nasty, and mercilessly short; and can be triggered by a stock market crash followed by a bear market. The Goldilocks' economy is an economy that is "just right", when growth is not too hot, causing inflation, nor too cold, creating a recession. Ideally, it has GDP growth rate of between 2-3 percent. The target inflation set by the Federal Reserve (Fed) is at 2 percent; and the goal for corrective measures of both Fed's monetary policy and Congress' fiscal policy is to create enough demand to keep the economy humming at a healthy pace (Amadeo, 2017).

For economic growth and development planning purposes, the economists, development experts, and policy makers often look up to construction industry, including its residential components, for clues about the overall economy. The industry is one of the first to go into recession when the economy declines, and likewise, the first to recover as conditions improve (Associated General Contractors of America, 2016). As mentioned earlier, construction is a major contributor to the U.S economy, especially its value, spending, and employment, including also the residential values associated with housing permits and starts that constitute the housing market. They all affect the nation's gross domestic product (GDP) in one way or the other. The housing permits (total new private housing units authorized by building permits) give a nine-month lead in new home construction; most cities issue the permit two or three months after the buyer signs the new home sale contract; and is usually six to nine months before builders complete the new home (Amadeo, 2016). In fact, when permits start to fall, it is a clue that demand for new housing is also down; and that something is wrong with the resale market. On the other hand, housing starts (total new privately owned housing units started) are registered at the start of construction of a new building intended primarily as a residential building. The start of construction is defined as the beginning of excavation of the foundation for the building (Econoday, 2016). The prevailing housing market always affects both housing permits and housing starts. The housing market refers to the supply and demand for houses in the country, region, or local jurisdictions (Pettinger, 2015). The housing market, as a real-estate business, includes the following, according to Pettinger: supply of housing (quantity of housing stock); demand for housing; house prices; rented sector (buy to let investment and demands from tenants); and government intervention in the housing market. Several factors also affect the housing market, which include: interest rates that influence both costs of fixed-rate and variable (adjustable) mortgages; state of mortgage industry that determines whether people are eligible for mortgages; economic growth, incomes, and employment rates; and population and demographic trends that affect the purchasing power, housing permits, and housing starts. In the U.S, housing market influences the wider economy, and often volatile because of the various factors above. At any rate, when house prices are falling, consumer confidence weakens, and consumer spending

tends to decrease; therefore, it is important to try and be able to predict future movements in the housing market, because it influences the economy and individual homeowners.

Consumer confidence which reflects the current and future economic conditions determines consumer spending, and thus, private consumption of goods and services. The things consumers buy every day create demand in an economy, which keeps companies profitable and hiring new workers. It has been ascertained that nearly two-thirds of households' spending includes services like real-estate and healthcare; and the other remaining third is on goods that include the so-called durable goods, such as automobiles, washing machines, and furniture, as well as non-durable goods, such as gasoline, groceries, and clothing (Amadeo, 2016). According to Amadeo, the most important determinants of consumer spending include: disposable income (average income minus taxes), which is the most important determinant of demand; income per capita, which tells how much each person has to spend; income inequality, with its effect on low and high income earners consumption patterns; the level of household debt, which includes auto and school loans, and credit card debt; and consumer expectations, of which if they are more confident, they are more likely to spend more. Consumer confidence is measured by the Consumer Confidence Index, and is needed to boost economic growth. The Consumer Confidence Index is a measurement of Americans' attitudes about current and future economic conditions. It tells how optimistic people are about the economy and their ability to find jobs.

The Study Area

The focus of study is U.S and its regions (randomly exemplified by the State of Georgia and Atlanta Metropolis). How the construction and residential sector affects the gross domestic product (GDP) and by implication, the overall economy of the above entities is analyzed during the boon-bust economic cycles, 2000-2015.

Research Methodology

The research is both explanatory and longitudinal in approach. Several proximate and recursive socioeconomic variables are analyzed to support the debate that, Construction and Residential Sector has a great deal of both positive and negative effects or influences on economic or business cycles in the U.S. Such socioeconomic variables include, among others, Population and demographic trends in the areas; Private consumption expenditures; Government consumption expenditures; Gross domestic product (GDP); Per capita income; GDP from Construction; Net export; Net inventories; Interest rates; Annual inflation rates; Consumer confidence; Housing permits, by implication, Housing starts; Home prices; Construction value, Construction spending, and Construction employment; Residential value; Gross Private Domestic Investment; Fixed Investment; Residential Fixed Investment; Non-Residential Fixed

Investment; and Private and Public Constructions. It was hypothesized that Construction and Residential Sector influenced both leading and lagging economic indicators in the U.S economy, which caused the bull and bear markets during the study period. We should find out from the research whether this sector mimicked the overall economy during the boom-bust periods from 2000 to 2015.

Secondary data were collected from U.S Census Bureau; U.S Bureau of Economic Analysis; U.S Department of Commerce; National Bureau of Economic Research (NBER); American Community Survey; American *Housing Survey*; Conference Board's Consumer Confidence Index; New York Federal Reserve; St. Louis Federal Reserve; and U.S Bureau of Labor Statistics. The data were analyzed using simple descriptive statistics, such as totals, averages, ratios, and percentages. The policy suggestions and recommendations were based on the outcomes of the data analyses; and the conclusions were based on the overall research results.

Hypothesis for the Research

H₀: There is no relationship between Construction and Residential Sector and Gross Domestic Product (GDP) growth and decline during the study period from 2000 to 2015.

H₁: There is a significant relationship between Construction and Residential Sector and the GDP growth and decline during the study period. That is, the GDP, and by implication, the economy, follows the performance of Construction and Residential Sector in a sinusoidal pattern, and vice versa, as the nation goes through the economic or business cycles from 2000 to 2015.

The History of United States Great Recession and Recovery: The Boom-Bust Economy, 2000-2015

The housing and financial crises, and the concomitant economic recession and depression during the study period, noticeably started in 2007. Factually, the national economy entered a recession in 2008 and a depression in 2009. The year 2009 was also the height of global economic trauma and financial panic. The crises were brought about by the housing bubble and burst at the middle of 2000 decade, precipitated by the unsustainable lending abuses by mortgage servicers, which undoubtedly, severely hurt homeowners, investors, tax-payers, and the economy. By 2010, the economy had started to recover and has continued to do so ever since, as reflected by the gross domestic product (GDP), construction and residential sector, and the housing market. Of course, the series of palliative policy initiatives by the national, state, and local governments made the recovery possible and sustainable.

The financial crisis created many fiscal and demographic problems in the country during the period. For example, the racial wealth gap between the Whites, Blacks, Hispanics, and other minorities grew enormously as reflected in their respective rates of

homeownerships, home foreclosures, and foreclosure spillover or externality effects. Apart from lost in household wealth, other foreclosure spillover losses included: losses in tax revenue to local governments, the increased costs of managing vacant properties; and non-financial spillover costs, such as increased crime, lower school performance by children who are homeless, and neighborhood blight. It is a fact that the economy and many homeowners suffered heavily at the heat of the housing crisis, for example, between 2007 and 2011, about 10.9 million homes went into foreclosure (Stein, 2012, p.1), In 2012, there were 1.4 million foreclosures, though in 2015, there were only 583,000 foreclosures (*CoreLogic*, 2016). Foreclosure activities are based on total number of properties that receive foreclosure filings each month. Foreclosure filings comprise of default notices, auction sale notices, and bank repossessions. Even during the recovery period in 2013, about 52 percent of all U.S homes was still expected to be underwater (Crowell, 2012; CRL, 2012). Underwater properties are those that worth less than the mortgages on them. This had affected homeownership in the country from the eve of the Great Recession in 2007 to the height of recovery in 2015, such that, despite the economic recovery since 2013, the national homeownership rate has not reached its 2006 counterpart (see Table 1).

The aforementioned racial wealth gap in the nation was amplified during the Great Recession of late 2000 decade. For example, according to Professor Dorothy Brown of Emory University Law School in Atlanta, the racial wealth gap during that period hit all time high, that the net worth of White households was 20 times that of Black households, and the market crash showed White median net-worth down by 16 percent, while Black median net-worth was down by 50 percent (Brown, 2012, p. 10). More so, African Americans, Latinos, and Asian-Americans together lost nearly 60 percent of median household net worth from 2005-2010, while the median net-worth for White families dropped by 23 percent, about a third of the loss rate for people of color (Brown, 2012). The wealth gap between racial groups may be related also to discrimination meted to minorities, especially people of color, in the housing market and overall economy. Thus, according to former Federal Reserve Chairman, Ben Bernanke, there are two types of discrimination that are hurting the minority homeowners in the country: (a) Redlining in which lenders discriminate against minority neighborhoods; and (b) Pricing discrimination in which lenders charge minorities higher loan prices than they would to comparable non-minority borrowers (Kurz, 2012). Indeed, communities of color have been targeted for years by those predatory lenders, and abused for years by mortgage servicers (see *admins* 3 on October 22, 2012). The above wealth gaps and discrimination manifest themselves in homeownership rates among the different ethnic groups (Table 1). From the Table, especially on the eve of housing bubble burst in 2006, the United States Quarterly Homeownership Rates fell from 68.9 percent to 63.8 percent in 2015, even when the recovery had been in place or entrenched for some years. Table 1 also shows that in 2015, homeownership was still below what it was in

2000 for different ethnic groups. This notwithstanding, the Whites homeownership rates were consistently above the series of national averages, while those of the minorities, including Blacks, Hispanics, and All Other, were consistently below the national averages. Therefore, the Table has conclusively indicated that minorities are poorly housed in the United States.

Since 2000, there have been five booms and busts in the U.S economy (Table 2). During any boom period, the economy grew as indicated by the GDP growth and positive economic output; and unemployment also went down. Ideally during this period, the healthy GDP growth rate should be between 2-3 percent range; and unemployment and inflation rates are in balance, by unemployment rate being between 4.7 percent and 5.8 percent, and target inflation rate being about 2.0 percent (Amadeo, 2017). This may result in irrational exuberance of investors who get into the pursuit of ever-higher returns, which drives the peak phase of the business cycle. According to Amadeo, when the GDP growth rate is greater than 3 percent and the inflation rate greater than 2 percent and may reach double digits, they create asset bubbles at the peak of the cycle when asset prices are mostly over-inflated leading to contraction phase in the economy or the bust cycle phase. At bust phase, the economic growth weakens and the GDP growth rate falls below 2 percent, which causes economic recession if it declines further (Amadeo, 2017). As a well-known fact in the country, the first signs of the economic downturn, which eventually led to Great Recession, started in 2006 when the housing prices began to fall.

Going back a little bit, the boom cycle of 1991-2001 ended with a bubble caused by internet investment in 2001. Of course and as expected, the GDP growth rate in 2000 was high and up to 4.1 percent, unemployment rate was high (6.0 percent), and inflation rate was also high (3.4 percent) (Table 3). The peak was reached in March 2001 when the bubble bursted (NBER's Business Dating Committee, 2010) (Table 4). From Tables 2 and 3, these events were apparent, for example, the bust cycle lasted from March 2001 to November 2001, when the economy entered into a recession caused by high interest rates and stock market crash; and GDP growth rate declined to 1.0 percent (Amadeo, 2016). In the effort to correct the economic cycle, the Fed reduced the Fed Fund Interest Rate to below 2.0 percent. Then, the low rate likely pushed interest-only loans, which helped cause subprime mortgage crisis (New York Fed, 2016). The economic cycle reached its trough in November 2001, beginning the boom that lasted from December 2001 to November 2007 by derivatives, which undoubtedly created the housing bubble in 2006. The GDP growth rate in 2006 was 2.7 percent (way above the healthy range of 2-3 percent); Fed Fund Rate was 5.25 percent (raised to cool housing market bubble, which made homeowners not able to afford mortgages); unemployment rate was 6.0 percent; and inflation rate was 2.5 percent (see Table 3). Consequently, in 2007, which was the beginning of the financial crisis, the GDP growth rate declined to

1.8 percent; Fed Fund Rate came down one percentage point to 4.25 percent; unemployment rate stayed same at 6.0 percent; and inflation rate climbed to 4.1 percent (way above healthy rate of 2.0 percent). It is worthy to note that during the financial crisis in 2008, the GDP growth rate plummeted and nosedived to -0.3 percent, signaling a recession or the Great Recession. According to Amadeo (2016) and other financial experts (e.g. Hera, 2010), the real cause of the financial crisis was the proliferation of derivatives in the 1990s and 2000s, pushed by the wanton securitization of mortgages by servicers, which inevitably created artificial demand.

The derivatives are complicated financial products that derive their value by reference to an underlying asset or index. The underlying asset can be a commodity such as, oil, gasoline, gold, stocks, bonds, mortgage, or currencies such as the dollar. A very good example of a derivative is a mortgage-backed security, which is the product of housing market under discussion. Before the housing bubble in 2006, derivatives were traded or gambled in the absence of clearing houses, e.g. regulated markets. According to Hera (2010), Warren Buffet (one of the wealthiest individuals in the whole world) told his shareholders that “derivatives are financial weapons of mass destruction, carrying dangers that, while initially latent, are potentially lethal”. The examples of derivatives, among others, include (Amadeo, 2016): Asset-Backed Commercial Paper; Call Option; Credit Default Swaps (CDS, is simply an agreement to exchange cash flows); Collateralized Debt Obligations, these are toxic assets and type of sub-prime mortgage lending and mortgage-backed securities (MBS); Commodities Futures; Interest Rate Swap; Mortgage-backed Securities; Oil Price Futures; Put Option; and Stock Options. The above derivatives are over the counter (OTC) derivatives that are used for speculation, as well as hedging. The OTC markets are not widely understood and their interdependencies among market actors promote risk volatility, e.g. the systemic risk, which became apparent in 2008 when Lehman Brother Holdings, Inc. failed (Amadeo, 2016). The derivatives, such as Credit Default Swaps (CDS), have underlying systemic risk capable of wiping out virtually all of the largest banking institutions in the world, such as, Bank of America, Wells Fargo Bank, Ally Bank, Citi-Bank, and Chase Bank. Banking is one of the key drivers of U.S economy, which provides the liquidity needed for families and businesses to invest for future. No wonder, when the above banking institutions were threatened during the second-half of the 2000 decade, the financial market went into paralysis and then into coma, and the overall economy eventually went into Great Recession.

The next bust in the economy lasted from 2007 to 2009, caused by subprime mortgage crisis and the subsequent financial crisis (Table 2). As indicated earlier and without gainsaying, the 2007 financial crisis was due to the breakdown of trust within the financial system, caused by the subprime mortgage crisis, which itself was also caused by the use of derivatives. A subprime mortgage is a housing loan that is granted to

borrowers with impaired credit history. The subprime mortgage crisis occurred when banks sold too many mortgages to feed the demand for mortgage-backed securities. It became apparent that, the crisis was caused by hedge funds, banks, and insurance companies. Hedge funds and banks created mortgage-backed securities, and the insurance companies covered them with credit default swaps. Of course, the exuberance demand for mortgages, even by those who were not qualified, led to an asset bubble in housing. The bubble informed the Federal Reserve to raise the Fed Fund Rate, which sent adjustable mortgage interests sky-rocketing, and subsequently sent home prices plummeting and borrowers defaulting. Undoubtedly, when home prices fell in 2006, it triggered defaults. The risk then spread into mutual funds, pension funds, and corporations that owned these derivatives that derive their values from underlying assets (stocks, bonds, gold, or currencies, such as U.S dollar). Mutual fund is a collection of stocks, bonds, or other investment assets. If one invests in mutual fund, he or she owns its share (net asset value) and not the share of the stock. Stocks are sold by the original owners of a company as initial public offerings (IPOs) to gain additional funds to help the company grow. The effect of the risk spreading into mutual funds and others was the 2007 banking crisis, the 2008 financial crisis, and the Great Recession, which was the worst recession since the Great Depression in the 1930s. In summary, what caused the bubble-burst in 2007 and the financial crisis in 2008, using mortgage-backed security as an example, Amadeo (2016) informed that:

“ . . . all goes well until housing prices decline or interest rates reset and the mortgages start to default. That’s what happened between 2004 and 2006 when the Fed started raising the Fed Funds rate. Many of the borrowers had interest-only loans, which are a type of adjustable-rate mortgage. Unlike a conventional loan, the interest rates rise along with the Fed funds rate. These mortgage-holders found they could no longer afford the payments, usually after three years of Fed raising interest rate. As interest rates rose, demand for housing fell, and so did home prices. These mortgage-holders found they could not make the payments or sell the house, so they started defaulting, causing massive foreclosures. Banks stopped lending to each other altogether, because they were afraid of receiving more defaulting derivatives as collateral. When this happened, they started hoarding cash to pay for day-to-day operations. That was what promoted the Bailout Bill, which was originally designed to get these derivatives off the books of banks, so they can start making loans again. . . .”

The final boom in the economy started from July 2009 when the business cycle reached the trough phase to now (see Table 4). In 2015 we saw that the GDP growth rate was 2.6 percent, the Fed Fund rate was 0.25 percent, unemployment rate was 6.0 percent, and inflation rate was 0.7 percent; and in 2016, GDP growth averaged 3.2 percent, Fed Fund Rate inched up to 0.75 percent, unemployment and inflation rates went further down to 4.6 percent and 0.4 percent respectively (see Table 3). With the above GDP

growth rate and low inflation and unemployment rates, the business cycle may again reach its peak phase in no distant time, which may cause the Fed Fund Rate to go up as a corrective measure, leading to contraction phase and bust period in the economy. The present boom period that started in 2009 certainly reflects the effects of palliative, remedial, and corrective measures stemming from series of federal policies and programs initiated by President Barak Obama, to shore-up the economy, and also pull it out of recession. Under the President, the Congress responded to the economic downturn by enacting bills with potential impacts on producers and consumers, that is, on investors, borrowers, and even on overall economy. Some of the bills by the Congress included: The Economic Stimulus Act of 2008; The American Recovery and Reinvestment Tax Act of 2009; The Home Improvements Revitalize the Economy Act of 2009; Small Business Jobs and Credit Act of 2010; and the Tax Relief, Unemployment Insurance Reauthorization and Job Creation Act of 2010 and extensions (Bureau of Economic Analysis, 2016).

There were other corrective measures that targeted the mortgage servicers and borrowers during the recovery period. For example, The Legal National Mortgage Settlement (Consent Settlement) of 2011. It followed that the abusive actions of the mortgage servicers (e.g. the nation's largest banks) became so bad that the nation's attorney generals (AGs) joined with federal agencies to take action against the servicing abuses (Center for Responsible Lending, 2012). The key components of the Consent Settlement included, payments to foreclosed borrowers; financial relief to borrowers against the activities that services provide, e.g. for principal reduction loan modifications; and monitoring and enforcement. Servicing Reforms, which were important to prevent a future housing crisis that can also be good for consumers were also included in the corrective measures by the government (Center for Responsible Lending, 2012, pp. 1-3). Other corrective measures also included, Robert Menendez (D-NJ)-Barbara Boxer (D-CA) Bill --- The Responsible Homeowner Refinancing Act of 2013; and Dodd-Frank Financial Reform Act of 2011. The Menendez-Barbara Boxer Bill offered a bipartisan opportunity to help homeowners and also boost the economy. The Bill actually relaxed requirements for borrowers and also extended the Home Affordable Refinance Program (HARP) for an extra year through 2014. The Bill was designed to help more number of homeowners of different socioeconomic classes to refinance, who would otherwise not able to refinance due to higher bar set by lenders (Esswein, 2013, pp. 1-3). On the other hand, Dodd-Frank Financial Reform Act was expected to make the financial system more stable, and with fewer and less severe financial crisis in the future. Definitely, this was the federal law-makers key legislation to stop foreclosures and strengthen protections against abusive lending practices. The Act established an independent Consumer Financial Protection Bureau (CFPB) to ensure consumer access to credit (Coalition for Sensible Housing, 2011, p.3). Indeed, the cumulative effects of the federal government corrective measures and quantitative

easing included, increased consumer confidence and spending; increased construction and housing spending; decreased foreclosure filings; increased building permits and starts; increased corporate profits; stock market increases; increased business investment; and increased GDP and GDP per capita; and thus, the national, regional, and local economic recoveries (Aka, 2016). The discussions in next section are likely to support and elucidate the above assertions.

The Role of Construction and Residential Sector in U.S Economic Cycles, 2000-2015: The Empirical Evidence

The National and Regional Evidence

The strong U.S economy that lasted until the first-half of 2000 decade, as discussed above, was driven by the derivatives in construction and residential market. With over-confidence in the economy (see Table 5) and the resulting irrational exuberance by investors and consumers, the economy heated up with the housing bubble in 2006 that bursted in 2007. From Table 5, apart from the beginning of the decade, the consumer confidence was highest in 2007 (110.7), which fell considerably in 2008 (87.9) at the beginning of Great Recession. Consequently, the Fed reacted by raising the Fund Rate to 4.25 percent to cool the over-heated housing market, which subsequently raised the financial markets' nominal interest rates in the economy. As a result, more homeowners, especially those with adjustable rates mortgages and subprime interest rates, could no longer afford their mortgages. The effects negatively and disproportionately affected minority groups, especially Blacks, Hispanics, and Asians in all regions, whose populations have been growing faster than the majority group (White). Table 6 shows that from the Great Recession in 2009 and during the recovery period since 2010, the populations of minority groups in U.S (as well as in State of Georgia, and Atlanta Metropolitan Area that were randomly selected), were increasing, while that of the majority group was declining.

Starting from 2000, all industry total real gross domestic product (GDP) and per capita GDP in U.S (as well as in the State of Georgia, and Atlanta Metropolitan Area) increased until 2007 when the economy reached the expansion peak (Table 7). The Table also shows that at the beginning of the Great Recession in 2008, the GDP in all regions declined and dipped more in 2009 when the national economy entered into a Depression, and started to increase once more in 2010 at the inception of recovery. Some of the contributors to GDP by All industries that include, Private Industries, Construction, Utilities, and Real Estate, followed the same pattern during the same period (Table 8). Personal Consumption Expenditures, Household Consumption, and Housing and Utilities (Services) also increased and decreased. During the same period, Gross Domestic Investment, Fixed Investment, Non-Residential Fixed Investment, and Residential Fixed Investment equally followed the same pattern (Table

9). The Table shows also that Change in Private Inventories, Exports, and Net Exports of goods and services followed the same pattern. Analysis of another variable, U.S Residential Investment Shares of the GDP (Table 10), shows that the variable also followed the same pattern, increased steadily from 2000 (4.7%) and reached its peak in 2005 (6.5%) on the eve of housing bubble; declined steadily since 2007 (4.7%) bubble-burst year; further dipped during the Great Recession period of 2008 (3.5%) through 2010 (2.5%) at the beginning of economic expansion; and rose steadily since 2012 (2.7%) during the recovery period. After 2007, the Congress instituted series of government stimuli and other corrective measures to prop up the economy, which undoubtedly spurred all the above economic variables to show some upticks, and so also the overall economy during the period.

The national economic recovery also impacted Total Construction Spending, which includes those of Private Construction, Residential Construction, Non-Residential Construction, and Others. All increased at the beginning of the 2000 decade during the economic boom period, but declined drastically at the bust year in 2007 (Table 11). From Table 11, the total construction put in place spending at the bubble peak in 2006 was 1,200 billion dollars with 9.16 percent change from 2005, but at the onset of the bust period in 2007, the total construction spending was 1,169.1 billion dollars with -2.58 percent change from 2006. In fact, at the beginning of the Great Recession in 2008, total construction spending has decreased to 1,084.4 billion dollars with -7.24 percent change from 2007. More so, in 2009 and 2010 during the height of the Great Recession and Depression respectively, the total construction spending and percent change declined drastically to \$958.0 billion (-11.66%) and \$805.2 billion (-15.95%) respectively. Nevertheless, since 2011, all the construction types had shown positive increases (Table 11), probably due to series of government economic stimuli and corrective measures. As the construction spending and investments increased and then decreased during the economic boom-bust period; so also was the construction employment (Table 12). For example, when the bubble bursted in 2007, the January U.S construction employment was 7725 thousands, and was down to 7476 thousands in January 2008 at the beginning of the Great Recession; and had not reached the January 2007 level by January 2015 (6351 thousands) at the height of economic recovery (Table 12). As a major contributor to national economy, the low construction employment indicated that full economic recovery was still underway.

As a leading economic indicator, the housing permits, and by implication, housing starts, had increased since 2001 until the eve of housing bubble in 2005 in the U.S and its regions (North-East, Mid-West, South, and West), and even in randomly selected State of Georgia and Atlanta Metropolis. It also follows that their percentage changes from the previous years increased during the same period (Table 13). The Table also shows that the number of housing authorized or permitted decreased in 2007, at the

bust year; and even got worse in 2008 and 2009 during the Great Recession and Depression. Of course, during the economic recovery period that started in 2010 due to economic stimulus and incentives, the total new privately-owned housing units authorized or permitted annually showed positive increases in the above regions and jurisdictions. From 2000 to 2015, although homeownership rates that were seasonally adjusted, had not recovered fully, but the total housing inventory increased but slowed down somewhat during the Great Recession in 2008 and 2009 (Table 14). From the Table, the owner-occupied housing units of 74706 thousands at the peak of economic recovery in 2015 had not even reached the level of 75,380 thousands at the height of the bubble period in 2006. Certainly, as many families and individuals opted for renting than grappling with home ownership and subsequent foreclosures, renter-occupied units increased steadily after the economic bust and during the Great Recession period. The vacant housing units for both owner-and renter-occupied increased during the recession period, but started to decrease once more from 2013 when the real economic recovery manifested itself (Table 14). The housing prices in the U.S and regions also simultaneously followed the patterns during the economic boom-bust period (Table 15). For example, using 2005 as the base year (i.e. 2005 = 100), the price indexes of new single-family houses actually sold (including lot value) in U.S and the regions increased until the peak in 2007 (104.0) bubble-burst year; and had increased considerably since 2013, when the index reached all-time high in 2015 (113.6). In the same vein, the average sales price of single-family houses actually sold in the U.S and regions followed the same pattern by initially increasing from 2000, reaching their peaks in 2007 during the bubble-burst year; decreasing during the Great Recession and Depression in 2008 and 2009 respectively; and increasing once more during the recovery period, 2010 to 2015 (Table 16).

Policy Suggestions and Recommendations

Understanding the components of gross domestic product (GDP) is paramount in understanding the role Construction and Residential Sector plays in U.S economy, especially its growth and decline. In addition, the examination of the role of housing market in the economy also requires an understanding of population composition and movement, i.e. trends and conditions. From the study, analyses of the recursive variables have ascertained that Construction and Residential Sector is a major component, determinant, and contributor to U.S economy. We have also confirmed that, Residential and Non-Residential Investments, as well as Change in Inventories are major components of Gross Private Domestic Investment, which is a critical component of the gross domestic product (GDP). The Residential and Non-Residential expenditures make up the Fixed Investment that constitute more than 95 percent of the Gross Private Domestic Investment, which provides an indicator of the future productive capacity of the economy. Thus, the construction industry spending in both its residential

and non-residential components is a major component of the U.S economy; and anything that affects the industry also affects, in the same direction, the overall economy.

The study also shows that, in the early 2000 decade, the construction industry was a major beneficiary of the low interest rates and housing industry-led economic boom that peaked in 2006 causing the bubble (Kirchhoff, 2011; see also Table 3). We also found that the first signs of the Great Recession that followed later in the decade started toward the end of 2006, when housing prices began to fall, then followed by the bursting of the GDP expansive bubble caused by residential and non-residential (including commercial real-estate) categories. Therefore, the construction industry (as well as housing industry) was one of the largest casualties of the subsequent U.S financial crisis during the Great Recession that began in 2007. According to Kirchhoff (2011), construction spending comprised about 7 to 8 percent of U.S annual economic output from 1995 to mid-2000, reaching nearly 9 percent of the GDP at the peak of the housing run-up of 2006, before declining to about 5 percent in 2010 (see also Economic Watch, 2010).

The data analyses results of the above surrogate variables in this study support the theorization that whatever happens to Construction and Residential Sector also happens, in the same direction, to gross domestic product (GDP) and by implication, the overall economy. That is, if one goes up, the other one also goes up; and if one goes down, the other one also goes down, and vice versa. This process was witnessed by the whole nation during the boom-bust economic cycles from 2000 to 2015 (Figures 1 and 2). Data analyses also showed that housing alone contributes to GDP in two ways, which include, private residential investment and consumption spending on housing services. As we noted earlier, residential investment includes the construction of new single or one-family and multi-family structures, residential remodeling, production of manufactured housing including mobile homes, and brokers' fees; while consumption spending on housing services includes gross rents (which includes utilities) paid by renters, owners' imputed rent (an estimate of how much it would cost to rent owner-occupied units), and utility payments. The gross domestic product and the overall economy also follow the same pattern or direction of whatever happens to the residential investment, non-residential investment, and construction investment and spending (thus, the Gross Private Domestic Investment), and vice versa. Undoubtedly, the study shows that the GDP and the overall economy follow the experiences of construction and residential investments and spending, as well as consumption spending in a sinusoidal pattern (see Figures 1, 2). That is, when GDP goes up, the other factors go up and vice versa. Therefore, policy suggestions and recommendations in this study are based on the results of the data analyses above.

To lower unemployment that is the product of the bust phase of the economic cycle, there should be a major focus on increasing and improving the gross private domestic investment. As noted earlier, the gross private domestic investment is an aggregate component of expenditures which include construction spending and fixed investment (capital investment) that represent both residential and non-residential expenditures, which include also those of commercial real-estate. Therefore, the policy of stimulating gross private domestic investment is likely holding the key to unlocking, expanding, and sustaining the economic recovery during the boom phase of the economic cycle. Gross private domestic investment is also expenditures on capital goods used in the domestic economy, which certainly affects the GDP. It follows that, the policy of adding capacity to produce new equipment and software to increase economic efficiency can and will create jobs, expand the recovery, and likely sustain growth. Nonetheless, there should be the awareness of the risks involved in increasing efficiency, because although factor productivity is likely to rise, but the need for labor per unit of output may be reduced. It is also recommended that during the bust period in the economy, the housing industry and housing market should be stimulated to increase supply and demand of housing, which will positively impact the construction and residential sector; create the needed jobs to mop up the mass layoffs during recession; and help abate housing foreclosures. Aggressively taking care of a lagging economic indicator such as unemployment rate which happens toward the end of the contraction phase in the economy, will also positively affect leading economic indicators that predict the expansion or recovery phase, such as the manufacturers' order for durable goods; falling and low interest rates that create liquidity for businesses and consumers; and stock markets and prices that predict the health of businesses and the economy. When interest rates rise, investors as well as consumers will know that the economy will soon slow down; and when stock market prices rise, the investors are more confident in the economy. Therefore, no matter the business risks involved, in the long-run, investment in new plants, new and better products, new methods of production, housing industry, and housing market, is sine qua non for GDP growth, and also a tenant of economic growth. Finally, addressing the policies that facilitate growth of gross private domestic investment and its components, especially the construction and residential sector, is likely also to offer a realistic opportunity to enhance the recovery while positioning the nation, regions, and local jurisdictions for future growth and development.

Conclusions

The construction and housing sector is a major component and contributor to U.S gross domestic product (GDP) and the overall economy. Construction industry is comprised of both private and public constructions, which include both residential and non-residential categories. In the U.S, total construction spending represents a significant portion of the gross domestic product (GDP). We also noted in this study that

residential, non-residential investments, and change in inventories are components of Gross Private Domestic Investment, which holds the key to economic recovery, and sustainable growth and development.

The boom-bust cycle is the alternating phases of economic growth and decline or the natural rise and fall of economic growth that occurs in the economy over time. The first phase is the trough, followed by the expansion phase, then the peak phase, and finally the contraction phase. The economic cycle creates both the bull and bear markets, which reflect investors' and consumers' attitudes and responses to the prevailing economic conditions. They impact leading and lagging economic indicators, such as unemployment rates, interest rates, manufacturers' order of durable goods, and stock market and prices. During the boom cycle, economic growth is positive, reflected by GDP increases, rising housing prices, wage growth, and low unemployment rate; and may last for many years. During this time, the consumer confidence, which determines consumer spending and private consumption of goods and services, starts to rise. The boom phase does not end unless the economy is allowed to overheat, leading to asset bubble that should inevitably burst due to the irrational exuberance of investors and consumers, who bid asset prices way above any underlying value. On the other hand, during the bust phase that usually last for fewer months, the GDP growth rate declines, unemployment rate rises, and the value of investments falls, which may lead to a recession after some months. The bust period, in most cases, is brutish, nasty, and mercilessly short. The "Goldilocks economy" is an economy that is "just right," when growth is not too hot, causing inflation, nor too cold, creating recession. In fact, during the time the economy is in recession, the goal for corrective measures of both Fed's monetary policy and Congress' fiscal policy is to create enough demand to keep the economy humming at a healthy pace.

During the study period, 2000 to 2015, we acknowledged that U.S economy actually passed through boom-bust cycles. The financial crisis, housing crisis, and the consequent economic downturn during the period started in 2007, when the housing bubble of the early 2000s bursted. The real cause of the housing, financial, and economic crises was the proliferation of derivatives in the 1990s and early 2000s, which created artificial demands that resulted in a bubble that peaked in 2006. A good example of a derivative is the mortgage-backed security market, which was largely unregulated. According to Warren Buffet, "derivatives are financial weapons of mass destruction that carry dangers that, while initially latent, are potentially lethal". Of course, the financial weapons exploded loudly in 2007, causing the financial, housing, and economic crises, as well as the concomitant Great Recession and Depression, which started in 2008 and lasted through 2009.

The construction industry is one of the first drivers of the economy to go into a recession when the economy declines, and likewise, the first to recover as the economic

conditions improve. In a depressed economic period, the residential and commercial construction always helps to pull the economy ahead by creating the needed jobs and reducing the extant high unemployment rate. Subsequently, with the improved economy, corporate balance sheets start getting strong; and with much confidence, investors start feeling that businesses are doing well financially, as stock market indexes hover near record highs.

The results of this research support the theorization that there is a significant relationship between construction and residential sector and the GDP growth and decline. The GDP, and by implication, the economy, followed the performance of construction and residential sector in a sinusoidal pattern, as the nation, regions, and local areas go through the economic cycles. That is, as one goes up, the other one also goes up, and vice versa. Therefore, one can unequivocally conclude that, the United States, State of Georgia, and Metro Atlanta's economies mimicked each other during the economic boom-bust cycles from 2000 to 2015. On what should drive and sustain economic growth and development during the boom-bust economic cycles, the analysis of data informed some suggestions and recommendations, that there should be some investments in new manufacturing plants, new and better products, new methods of production, and aggressive corrective measures in housing industry and housing market, to create the much needed jobs and incomes, reduce foreclosures, and move the economy forward. Aggressive measures include the application of Keynesian economic principles that emphasize government economic stimulus and spending to induce consumption of goods and services through households and individual demands; and better regulations of the housing market, especially in the areas of mortgage loan qualifications, mortgage securitization, and proliferation of derivatives. Finally, by addressing the policy that facilitates gross private domestic investment, including the construction and residential investments during the bust period, it is likely to offer a realistic opportunity to enhance and sustain economic recovery, while positioning the nation, regions, and local jurisdictions for boom period of economic growth and development.

References

Admins3(2012). Available at:

- <http://blackpoliticsontheweb.com/2012/10/24/foreclosures-drain-e-trillion-from-neighborshouses>;and <http://www.blackvoicenews.com/news/news-wire/48272-blacks-and-hispanics-lost-1-trillion>.
- Aka, Ebenezer (2016). "Metro Atlanta Housing Industry Recovery, 2010-2013: A Temporary Perturbation or Long-Term Trend?" *American International Journal of Humanities and Social Science*, Vol. 2, No. 2, April 2016, pp. 10-23. Center for Global Research Development.
- Amadeo, Kimberly (2016). "2007 Financial Crisis: Explanation, Causes, Timeline. Here's How they Missed the Early Clues of the Financial Crisis." Updated September 8, 2016.
- Amadeo, Kimberly (2016). "Boom and Bust Cycle: Causes and History. 10 Booms and Busts since 1980." Updated December 28, 2016. <https://www.thebalance.com/boom-and-bust-cycle-causes>.
- Amadeo, Kimberly (2016). Consumer Confidence Index: News Impact. Consumer Confidence Is the Highest in Nine Years." Updated November 29, 2016. <https://www.thebalance.com/consumer-confidence-index>.
- Amadeo, Kimberly (2016). "Consumer Spending: Definition and Determinants. What You Buy Every Day Drives U.S Economy and Growth." *U.S Economy*. Updated August 12, 2016.
- Amadeo, Kimberly (2016). "Real Estate: What It Is and How It Works. 4 Types of Real Estate." *U.S Economy*. <https://www.thebalance.com/real-estate/-what-it-is-and-how-it-works>.
- Amadeo, Kimberly (2016). "Role of Derivatives in Creating Mortgage Crisis." Updated July 26, 2016. <https://www.thebalance.com/role-of-derivatives-in-creating-mortgage-crisis>.
- Amadeo, Kimberly (2017). "What is the Business Cycle? The 4 Critical Stages." *U.S Economy*. Updated January 02, 2017. <https://www.thebalance.com/what-is-the-business-cycle>.
- Associated General Contractors of America (2016). "Construction Data." <https://www.agc.org/learn/construction-data>.
- Brown, Dorothy (2012). "How Home Ownership keeps Blacks poorer than Whites." *Forbes Leadership Forum*, 2012.
- Bureau of Economic Analysis (2016). "Housing's Contribution to Gross Domestic Product (GDP), 1970-2010." Integrated by ProximityOne (2016). http://proximityone.com/metro_reports.
- Bureau of Economic Analysis (2016). "Net Effects of the Tax Acts of 2002, 2003, 2008, 2009, 2010 and extensions on Selected Measures of Corporate Profits, 2014-2016." <https://bea.gov/iTable/print.cfm>.
- Bureau of Economic Analysis (2016). "United States GDP from Construction, 2005-2016," September 2016. <http://www.tradingeconomics.com/united-states/gdp-from-construction>.
- Bureau of Economic Analysis (2016). "U.S Change in Real Residential Fixed Investment," August 26, 2016. https://ycharts.com/indicators/us_change_in_real_residential_fixed-investment.

- Bureau of Labor Statistics (2016). "Current Employment Statistics Survey," September 02, 2016.
- Center for Responsible Lending (2012). "Material Damage: The Spillover Cost of Foreclosures." <http://www.responsiblelending.org/mortgage-lending/research-analysis/collateral-damages>.
- Center for Responsible Lending (2012). "Summary of National Mortgage Settlement," (February 17), pp. 1-11.
- Coalition for Sensible Housing Policy (2011). "Proposed Qualified Residential Mortgage Definition Harms Credit-worthy Borrowers While Frustrating Housing Recovery." Submitted to the Federal Regulators on August 1, 2011.
- CoreLogic (2016). The Property, Information, Analytics, and Data-enabled Service Provider.
- Crowell, Charlene (2012). "Blacks and Hispanics Lost \$1 Trillion in Home Equity." Comments. <http://www.blackvoicenews.com/news/news-wire/8272-blacks-hispanics-lost-1-trillion>.
- Econoday (2016). "Econoday Economic Report: Housing Starts," May 17, 2016. <http://bloomberg.econoday.com/byshoweventfull.asp?>
- Economic Watch (2010). "U.S Construction Industry, USA Construction Sector," April 29, 2010. <http://www.economywatch.com/sector-watch/us-construction.html>
- Esswein, Mertz Patricia (2013). "The New Rules of Refinancing." *Kiplinger.com*-Friday, January 25, 2013.
- Gould, Brian (2016). "Conference Board's Consumer Confidence Index." *Agricultural and Applied Economics*, University of Wisconsin (UW), Madison.
- Hera, Ron (2012). "Forget About Housing, The Real Cause of Crisis Was OTC (Over the Counter) Derivatives," *Business Insider*, May 11, 2010; "25 People to Blame for the Financial Crisis," *Time Magazine*.
- Kirchhoff, Susanne M. (2011). "The Construction Sector in the U.S Economy," in Congressional Research Service Report, University of North Texas (UNT) Digital Library. <http://digital.library.unt.edu/ark:/67531/metadc40151/>.
- Kurtz, Annalyn (2012). "Bernanke: Minority Homeowners Face Discrimination." Annalynkurtz@CNMoney.Avaliableat:<http://money.cnn.com/2012/11/15/new/economy/Bernanke-housing-discrimination/sour...>
- Mathews, Rick (2012). "U.S GDP: How Three Types of Investments Impact Economic Growth," September 22, 2012. Mic Network Inc. One World Trade Center, 285 Fulton Street, 83rd Floor, Suite G, New York, NY 10007. <https://mic.com/articles/15168/us-gdp-how-three-types-of-investments-impact-economic-growth>.
- NBER's Business Dating Committee (2010). "Announcement Dates with Links to Announcement Memos," September 20, 2010. National Bureau of Economic Research, Inc. Public Information Office. 1050 Massachusetts Avenue, Cambridge, MA 02138 USA. <http://www.nber.org/cycles/sept2010.html>.
- NBER's Business Dating Committee (2010). Public Information Office. National Bureau of Economic Research, Inc. 1050 Massachusetts Avenue, Cambridge, MA 02138 USA. <http://www.nber.org>.
- NBER (2017). "The NBER's Business Cycle Dating Procedure: Frequently Asked Questions." The Business Cycle Dating Committee's General Procedure for

Determining the Dates of Business Cycles, Wednesday, January 11, 2017
National Bureau of Economic Research, Inc. Public Information Office. 1050
Massachusetts Avenue, Cambridge, MA 02138.
http://www.nber.org/cycles/recessions_faq.html.

New York Fed (2016). "A History of Fed Leaders and Interest Rates," *New York Times*,
December 16, 2016.

Pettinger, Tejvan (2016). "Definition of the Housing Market." *Economics Help/Helping
to SimplifyEconomics*, December 19, 2015.
<http://www.economicshelp.org/blog/glossary/definition-of-the-housing-market/>.

Stein, Eric (2012). "The Impact of Dodd-Frank's Home Mortgage Reforms: Consumer
Market Perspective." Testimony of Eric Stein (Senior Vice President, Center for
Responsible Lending) before the House of Representatives Committee on
Financial Services, July 11, 2012, pp. 1-15.

The Confidence Board (2016). "Consumer Confidence Survey," December 2016.

Table 1: United States Quarterly Homeownership Rates (%) by Race and Ethnicity of Householder, 2000-2015

Year and Quarter	United States	Non-Hispanic White Alone	Black Alone	All Other Races ¹	Hispanic (of any Race)
2000 Q4	67.5	73.9	47.8	52.4	47.5
2001 Q4	68.0	74.4	48.1	53.2	48.8
2002 Q4 (r)	68.3	75.0	47.7	55.2	48.3
2003 Q4 ²	68.6	75.5	49.4	56.6	47.7
2004 Q4	69.2	76.2	49.1	58.9	48.9
2005 Q4	69.0	76.0	48.0	60.1	50.0
2006 Q4	68.9	76.0	48.2	60.0	49.5
2007 Q4	67.8	74.9	47.7	58.6	48.5
2008 Q4	67.5	74.8	46.8	58.3	48.6
2009 Q4	67.2	74.5	46.0	58.4	48.4
2010 Q4	66.5	74.2	44.9	57.7	46.8
2011 Q4	66.0	73.7	45.1	56.5	46.6
2012 Q4	65.4	73.6	44.5	55.2	45.0
2013 Q4	65.2	73.4	43.2	56.0	45.5
2014 Q4	64.0	72.3	42.1	55.3	44.5
2015 Q4	63.8	72.2	41.9	53.3	46.7

Source: United States Census Bureau (2016). "Housing Vacancies and Homeownership (CPS/HVS)." *American Housing Survey*. U.S. Department of Commerce. <https://www.census.gov/housing/hvs/data/histtabs.html>

r: Revised based on the 2000 census

1: Includes people who reported Asian, Native Hawaiian or Other Pacific Islander, or American Indian or Alaska Native regardless of whether they reported any other race, as well as all other combinations of two or more races.

2: Beginning in 2003, the question on race on the CPS was modified to comply with the revised standards for federal statistical agencies. Respondents may now report more than one race, but small sample sizes preclude showing all race categories. The question on Hispanic origin is asked separately, and is asked before the question on race. For further information on each major race group and the Two or More Races populations, see reports from the Census 2010 Brief series available on the Census 2010 website at: www.census.gov/2010census/data/2010-census-briefs.php.

Table 2: United States Economy Boom and Bust Cycles From 1970-2015

Business Cycle	Duration Reference Dates	Comments
Boom	December 1970-October 1973	Fed lowered rate to 3.5%
Bust	November 1973-March 1975	President Nixon added wage-price controls. End gold standard. OPEC oil embargo. Stagflation
Boom	April 1975-December 1979	Fed lowered rate to 4.75%
Bust	January 1980-July 1980	Fed raised rate to 20% to end inflation.
Boom	August 1980-June 1981	Fed lowered rates. For more, see Historical Funds Rates.
Bust	July 1981-November 1982	Resumption of 1980 recession
Boom	December 1982-June 1990	President Reagan lowered tax rate and boosted defense budget.
Bust	July 1990-March 1991	Caused by 1989 Savings and Loan Crisis
Boom	April 1991-February 2001	Ended with bubble in Internet investments
Bust	March 2001-November 2001	2001 Recession caused by stock market crash; high-interest rates
Boom	December 2001-November 2007	Derivatives created housing bubble in 2006.
Bust	December 2007-June 2009	Subprime Mortgage Crisis, 2008 Financial Crisis, the Great Recession
Boom	July 2009-Now	American Recovery and Reinvestment Act and Quantitative Easing.

Source: Amadeo, Kimberly (2016). "Boom and Bust Cycle: Causes and History. 10 Booms and Busts since 1980." Updated December 28, 2016. <https://www.thebalance.com/boom-and-bust-cycle-causes>.

Table 3: Gross Domestic Product (GDP) Growth Rates, Fed Fund Rates, and Events during the United States Economy Boom and Bust Cycles, 2000-2016.

Date	GDP Growth Rates (%)	Fed Fund Rates (%)	Events
2000	4.1%		Unemployment 6%; Inflation 3.4%
2001	1.0%	Nov. 2%; Dec. 1.75%; Low rates from Sept. pushed interest-only loans. Helped cause Subprime Mortgage Crisis	Unemployment 6%; Inflation 1.6%.
2002	1.8%		Unemployment 6%; Inflation 2.4%
2003	2.8%	Jun. 1%. Lowered rates to fight recession	Unemployment 6%; Inflation 1.9%
2004	3.8%		Unemployment 6%; Inflation 3.3%
2005	3.3%	Dec. 4.25%. Subprime borrowers could not afford mortgages when rates reset for adjustable mortgage rates, typically in the 3 rd year.	Unemployment 6%; Inflation 3.4%
2006	2.7%	Jun. 5.25%. Raised rates to cool housing market bubble. More homeowners could not afford mortgages.	Unemployment 6%; Inflation 2.5%
2007	1.8%	Dec. 4.25%	Unemployment 6%; Inflation 4.1%
2008	-0.3%	LIBOR (interest rate banks charge each other for short-term loans) began rising. It signaled the financial crisis of 2008. It is always good to get fixed-rate mortgage when LIBOR are rising.	

2015	2.6%	Dec. 0.25%	Unemployment 6%; Inflation 0.7%
2016	3.2%	Dec. 0.75%	Unemployment 4.6%; Inflation 0.4% as of Dec.

Source: New York Fed (2016). "A History of Fed Leaders and Interest Rates," *New York Times*, December 16, 2016.

Table 4: The Peaks or Troughs in U.S. Economy Boom and Bust Cycles, Turning Point Dates, and Announcement Dates with Links, 1980-2009

Turning Point Date	Peak or Trough	Announcement Date with Links*
January 1980	Peak	June 3, 1980
July 1980	Trough	July 1, 1981
July 1981	Peak	January 6, 1982
November 1982	Trough	July 8, 1983
July 1990	Peak	April 25, 1991
March 1991	Trough	December 22, 1992
March 2001	Peak	November 26, 2001
November 2001	Trough	July 17, 2003
December 2007	Peak	December 1, 2008
June 2009	Trough	September 20, 2010

*Prior to 1979, there were no formal announcements of business cycle turning points.

Source: NBER's Business Dating Committee (9/20/10). Public Information Office. National Bureau of Economic Research, Inc. 1050 Massachusetts Avenue, Cambridge, MA 02138 USA. <http://www.nber.org>

Table 5: The Monthly Consumer Confidence Index* in the United States, 2000-2015

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2000	144.7	140.8	137.1	137.7	144.7	139.2	143.0	140.8	142.5	135.8	132.6	128.6
2001	115.7	109.2	116.9	109.9	116.1	118.9	116.3	114.0	97.0	85.3	84.9	94.6
2002	97.8	95.0	110.7	108.5	110.3	106.3	97.4	94.5	93.7	79.6	84.9	80.7
2003	78.8	64.8	61.4	81.0	83.6	83.5	77.0	81.7	77.0	81.7	92.5	91.7
2004	96.4	88.5	88.5	93.0	93.1	102.8	105.7	98.7	96.7	92.9	92.6	102.7
2005	105.1	104.4	103.0	97.5	103.1	106.2	103.6	105.5	87.5	85.2	98.3	103.8
2006	106.8	102.7	107.5	109.8	104.7	105.7	107.0	100.2	105.9	105.1	105.3	110.0
2007	110.2	111.2	108.2	106.3	108.5	105.3	111.9	105.6	99.5	95.2	87.8	90.6
2008	87.9	76.4	65.9	62.3	57.2	50.4	51.9	58.5	61.4	38.8	44.9	38.6
2009	40.0	25.3	26.9	40.8	54.8	49.3	47.4	54.5	53.4	48.7	50.6	53.6
2010	56.5	46.4	52.3	57.7	62.7	54.3	51.0	53.2	48.6	49.9	57.8	63.4
2011	64.8	72.0	63.8	65.4	61.7	57.6	59.2	44.5	46.4	40.9	56.0	64.8
2012	61.5	71.6	69.5	68.7	64.4	62.7	65.4	61.3	70.3	73.1	71.5	64.6
2013	58.4	68.0	61.9	69.0	74.3	82.1	81.0	81.8	80.2	72.4	70.4	77.5
2014	79.4	78.3	83.9	81.7	82.2	86.4	90.3	93.4	89.0	94.1	91.0	93.1
2015	103.8	98.8	101.3	94.3	94.6	99.8	91.0	101.3	102.6	99.1	90.4	96.3
2016	97.8	94.0	96.2	NA	NA	NA	NA	NA	103.5	100.8	109.4	113.7

*Units: 1985 (=100).

Source: Gould, Brian (2016). "Conference Board's Consumer Confidence Index." *Agricultural and Applied Economics*, University of Wisconsin (UW), Madison.

Table 6: Population Characteristics of United States, State of Georgia, and Atlanta Metropolitan Area during the Economic Recovery Period, 2009-2015

Area	2009	2010	2011	2012	2013	2014	2015
United States	301461533	303965272	306603772	309138711	316427395	318907401	321418810
White	74.5%	74.0%	74.1%	74.2%	74.0%	73.8%	73.6%
Black	12.4%	12.5%	12.5%	12.6%	12.6%	12.6%	12.6%
American Indian	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%
Asian	4.4%	4.7%	4.7%	4.8%	4.9%	5.0%	5.1%
Native Hawaiian	0.1%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
Other Race	5.6%	5.5%	5.1%	4.8%	4.7%	4.7%	4.6%
Hispanic	15.1%	15.7%	16.1%	16.4%	16.6%	16.9%	17.1%
State of Georgia	9,497,667	9,468,815	9,600,612	9,714,569	9,991,562	10,097,132	10,214,860
White	62.1%	61.0%	60.9%	60.8%	59.5%	59.3%	59.0%
Black	29.7%	30.3%	30.4%	30.6%	30.1%	30.3%	30.3%
American Indian	0.3%	0.2%	0.2%	0.3%	0.3%	0.3%	0.3%
Asian	2.8%	3.1%	3.2%	3.3%	3.3%	3.4%	3.5%
Native Hawaiian	0.1%	0.1%	0.1%	0.1%	0.1%	0.04%	0.05%
Other Race	3.7%	3.6%	3.4%	3.2%	3.0%	2.9%	2.7%
Hispanic	7.7%	8.3%	8.6%	8.8%	8.8%	8.5	9.0%
Metro Atlanta	5,238,994	5,125,113	5,213,854	5,291,701	5,379,176	5,455,053	5,535,837
White	58.4%	56.9%	56.6%	56.4%	56.3	56.1%	55.8%
Black	31.0%	32.0%	32.2%	32.4%	32.7%	32.9%	33.1%
American Indian	0.3%	0.2%	0.3%	0.3%	0.3%	0.3%	0.3%
Asian	4.2%	4.7%	4.8%	4.9%	5.0%	5.2%	5.3%
Native Hawaiian	0.1%	0.03%	0.03%	0.04%	0.04%	0.04%	0.04%
Other Race	4.6%	4.5%	4.3%	4.0%	3.7%	3.4%	3.3%
Hispanic	9.3%	9.8%	10.1%	10.3%	10.4%	10.4%	10.5%

Sources:

U.S. Census Bureau, 2010-2014. American Community Survey, 5-Year Estimates.

U.S. Census Bureau, Population Division. Release Date: March 2016.

American Community Survey (2016). "Population 65 Years and Over in the United States, State of Georgia, and Atlanta Metropolitan Area, 2009-2012." *American Fact*

Table 7: All Industry Total Real GDP (millions of chained 2009 dollars) and Real Per Capita GDP (chained 2009 dollars) in the United States, State of Georgia, and Atlanta Metropolitan Area, 2000-2015

Year	United States ¹ GDP (Millions of Dollars)	United States Per Capita GDP (\$)	State of Georgia ² GDP (Mill. of Dollars)	State of Georgia Per Capita GDP (\$)	Atlanta Metropolitan Area ³ GDP (Millions of Dollars)	Atlanta Metropolitan Area Per Capita GDP (\$)
2000	12,616,533	44,714	373,907	45,447	-	-
2001	12,735,110	44,689	378,479	45,181	252,397	57,331
2002	12,962,807	45,068	380,923	44,771	254,926	56,785
2003	13,295,941	45,831	391,928	45,453	259,273	56,702
2004	13,764,653	47,010	408,639	46,599	265,390	56,956
2005	14,203,241	48,062	424,964	47,610	277,042	58,069
2006	14,584,888	48,880	430,438	47,013	282,699	57,321
2007	14,798,367	49,126	433,595	46,374	290,819	57,402
2008	14,718,301	48,401	420,483	44,239	285,001	55,125
2009	14,320,114	46,680	404,575	42,052	271,120	51,732
2010	14,628,165	47,287	408,248	42,029	272,427	51,361
2011	14,833,679	47,587	413,457	42,137	276,516	51,446
2012	15,126,281	48,157	418,312	42,179	280,911	51,482
2013	15,348,044	48,504	422,958	42,332	285,802	51,725
2014	15,691,181	49,203	433,463	42,929	295,397	52,615
2015	16,088,249	50,054	444,908	43,555	303,903	53,216

Source: ¹ Bureau of Economic Analysis (2016). "Per Capita Real GDP by United States (Chained 2009 Dollars), 1997-2015." All Industry Total. U.S. Department of Commerce. <https://bea.gov/iTable/iTable.cfm?>

Source: ² Bureau of Economic Analysis (2016). "Per Capita Real GDP by State of Georgia (Chained 2009 Dollars), 1997-2015." All Industry Total. U.S. Department of Commerce. <https://bea.gov/iTable/iTable.cfm?>

Source: ³ Bureau of Economic Analysis (2016). "Per Capita Real GDP by Atlanta Metropolitan Area (Chained 2009 Dollars), 2001-2015." All Industry Total. U.S. Department of Commerce. <https://bea.gov/iTable/iTable.cfm?>

Table 8: Annual Real Gross Domestic Product (millions of chained 2009 dollars) by Industry in United States, 2000-2015

Type of Industry	2000	2001	2002	2003	2004	2005	2006	2007
All Industry Total	1261653	1272511	1296280	1329594	1376465	1420324	1458488	1471830
Private Industries	1082618	1092699	1112012	1143222	1188612	1231112	1267866	1287298
Utilities	303952	257558	262686	254954	267227	250612	264153	267359
Transportation and Utilities	675712	607936	600112	608594	657136	665458	704783	702261
Construction	768871	755368	731459	744421	770455	772756	753462	725127
Real Estate and Rental and Leasing	1539741	1604431	1632166	1655912	1698459	1787088	1816329	1898232
Real Estate	1371801	1421664	1452187	1485475	1535497	1623183	1630556	1720363
Educational Services, Health Care, and Social Assistance	922464	946112	984500	1017545	1057732	1075854	1117352	1127992
Educational Services	124580	128836	130819	136829	143583	143072	146491	149666
Health Care and Social Assistance	798045	817530	853681	880830	914354	932834	970838	978342
Social Assistance	70136	71884	73311	77789	79407	81716	83585	84514
Government	1795384	1815309	1850196	1869163	1879822	1890814	1902777	1922307
Trade	1525948	1561813	1596001	1688877	1744135	1817167	1854618	1858115

Table 8 (cont.)

Type of Industry	2008	2009	2010	2011	2012	2013	2014	2015
All Industry Total	14718301	14320114	14628165	14833679	15126281	15348044	15691181	16088249
Private Industries	12760075	12352979	12650146	12871719	13169036	13408899	13754385	14144240
Utilities	269647	250785	274430	277859	276868	274556	268513	264359
Transportation and Utilities	704028	649628	695748	714448	716870	719957	719712	711313
Construction	662195	577296	551604	548635	569172	584912	594747	623855
Real Estate and Rental and Leasing	1930548	1904778	1957143	2009174	2040280	2070316	2112597	2164907
Real Estate	1745253	1740571	1794743	1877696	1864970	1889554	1924405	(NA)
Educational Services, Health Care, and Social Assistance	1187791	1214033	1220547	1239806	1263347	1279353	1303945	1354416
Educational Services	155558	162991	164815	166146	167601	164085	167598	167999
Health Care and Social Assistance	1032223	1051042	1055731	1073674	1095808	1115618	1136678	1187321
Social Assistance	88534	89065	89517	86808	92610	95791	97229	(NA)
Government	1955390	1967136	1976585	1962467	1957665	1940025	1938012	1945392
Trade	1808411	1664980	1710533	1733680	1774915	1829215	1889910	1953343

Source: Bureau of Economic Analysis (2016). "United States Real GDP (millions of chained 2009 dollars) by Industry, 1997-2015." U.S. Department of Commerce, December 7, 2016.

Note: NAICS Industry detail is based on the 2007 North American Industry Classification System (NAICS).

(NA) Not Available.

Per Capita real GDP statistics for 1997-2015 reflect Census Bureau midyear population estimates available as of December 2015. Last updated December 7, 2016--- revised statistics for 1997-2015.

Table 9: Annual United States Gross Domestic Product (Billions of Dollars): Expanded Details, 2000-2015

Name	2000	2001	2002	2003	2004	2005	2006	2007
Gross Domestic Product (GDP)	10,284.8	10,621.8	10,977.5	11,510.7	12,274.9	13,093.7	13,855.9	14,477.6
Personal Consumption Expenditures	6,792.4	7,103.1	7,384.1	7,765.5	8,260.0	8,794.1	9,304.0	9,750.5
Household Consumption	4,181.5	4,398.8	4,587.1	4,838.5	5,153.4	5,503.6	5,829.0	6,140.2
Housing and Utilities (Services)	1,98.6	1,287.5	1,333.6	1,394.1	1,469.1	1,583.6	1,682.4	1,758.2
Gross Private Domestic Investment	2,033.8	1,928.6	1,925.0	2,027.9	2,276.7	2,527.1	2,680.6	2,643.7
Fixed Investment	1,979.2	1,966.9	1,906.5	2,008.7	2,212.8	2,467.5	2,613.7	2,609.3
Non-Residential Fixed Investment	1,493.8	1,453.9	1,348.9	1,371.7	1,463.1	1,611.5	1,776.3	1,920.6
Residential Fixed Investment	485.4	513.0	557.6	636.9	749.7	856.1	837.4	688.7
Change in Private Inventories	54.5	-38.3	18.5	19.3	63.9	59.6	67.0	34.5
Exports	1,096.8	1,026.7	1,002.5	1,040.3	1,181.5	1,308.9	1,476.3	1,664.6
Net Exports of Goods and Services	-375.8	-368.7	-426.5	-503.7	-619.2	-721.2	-770.9	-718.5
Government Consumption Expenditures and Gross Investment	1,834.4	1,958.8	2,094.9	2,220.8	2,357.4	2,493.7	2,642.2	2,801.9

Table 9: (cont.)

Name	2008	2009	2010	2011	2012	2013	2014	2015
Gross Domestic Product (GDP)	14,718.6	14,418.7	14,964.4	15,517.9	16,155.3	16,691.5	17,393.1	18,036.6
Personal Consumption Expenditures	10,013.6	9,847.0	10,202.2	10,689.3	11,050.6	11,361.2	11,863.4	12,283.7
Household Consumption	6,355.8	6,372.5	6,564.0	6,817.8	7,018.7	7,221.8	7,579.3	7,943.7
Housing and Utilities (Services)	1,839.1	1,881.0	1,909.0	1,959.9	1,995.4	2,054.2	2,142.8	2,233.2
Gross Private Domestic Investment	2,424.8	1,878.1	2,100.8	2,239.9	2,511.7	2,706.3	2,886.5	3,056.6
Fixed Investment	2,456.8	2,025.7	2,039.3	2,198.1	2,449.9	2,613.9	2,821.0	2,963.2
Non-Residential Fixed Investment	1,941.0	1,663.4	1,658.2	1,812.1	2,007.7	2,094.4	2,251.0	2,311.3
Residential Fixed Investment	515.9	392.2	381.1	386.0	442.2	519.5	570.1	651.9
Change in Private Inventories	-32.0	-147.6	61.5	41.8	61.8	92.4	65.4	93.4
Exports	1,841.9	1,587.7	1,852.3	2,106.4	2,198.2	2,276.6	2,375.3	2,264.3
Net Exports of Goods and Services	-728.1	-395.4	-512.7	-580.0	-565.7	-492.0	-508.8	-522.0
Government Consumption Expenditures and Gross Investment	3,003.2	3,089.1	3,174.0	3,168.7	3,158.6	3,116.1	3,152.1	3,218.3

Source: FRED St. Louis Federal Reserve (2015). "Gross Domestic Product, Expanded Detail: Annual, 2000-2015." Table 1.5.5. Gross Domestic Product, Expanded Detail: Annual, 2015. <https://fred.stlouisfed.org/release/tables?rid>

Table 10: United States Residential Investment Shares of Gross Domestic Product (GDP), 2000-2015

Date (January 1 st)	Shares of Gross Domestic Product (%)
2000	4.7
2001	4.8
2002	5.1
2003	5.5
2004	6.1
2005	6.5
2006	6.0
2007	4.7
2008	3.5
2009	2.7
2010	2.5
2011	2.5
2012	2.7
2013	3.1
2014	3.3
2015	3.6

Source: U.S. Bureau of Economic Analysis (2016). "Shares of Gross Domestic Product: Gross Private Domestic Investment: Fixed Investment: Residential (A011RE1A56NBEA)," October 2016. Retrieved from FRED, Federal Reserve Bank of St. Louis. <https://fred.stlouisfed.org/series/A011RE1A156NBEA>

Table 11: July Constructions put in place Spending in the United States, Seasonally Adjusted Annual Rates (in billions of dollars)*, 2002-2016

Year	Total Constr.	Private Constr.	Residential Constr.	Non-Residential Constr.	Public ³ Constr.	Education-al Constr.	Highway Constr.
2002	847.1 ¹	634 ²	404.6	229.4	209.8	59.1	55.3
2003	879.8	664.2	449.6	214.3	215.7	58.1	60.0
% Change	3.86	4.76	11.12	-6.58	2.81	-1.69	8.50
2004	997.2	758.3	537.5	220.8	238.9	63.8	65.7
% Change	13.34	14.7	19.55	3.03	10.76	9.81	9.50
2005	1,099.3	856.2	615.8	240.4	243.2	63.7	63.9
% Change	10.24	12.91	14.57	8.88	1.80	-0.16	-2.74
2006	1,200.0	930.9	627.4	303.5	269.1	69.9	76.6
% Change	9.16	8.72	1.88	26.25	10.65	9.73	19.87
2007	1,169.1	880.1	534.0	346.0	289.0	83.0	74.3
% Change	-2.58	-5.46	-14.89	14.00	7.40	18.74	-3.00
2008	1,084.4	774.6	357.8	416.8	309.7	87.4	76.0
% Change	-7.24	-11.99	-33.00	20.46	7.16	5.30	2.29
2009	958.0	630.4	245.6	384.9	327.6	90.8	83.8
% Change	-11.66	-18.62	-31.36	-7.65	5.78	3.89	10.26
2010	805.2	506.4	240.3	266.1	298.8	73.0	76.8
% Change	-15.95	-19.67	-2.16	-30.87	-8.79	-19.60	-8.35
2011	789.5	514.5	248.1	266.4	275.0	67.2	74.9
% Change	-1.95	1.60	3.25	0.11	-7.97	-7.95	-2.47
2012	834.4	558.7	264.6	294.1	275.7	66.0	81.2
% Change	5.69	8.59	6.65	10.40	0.25	-1.79	8.41
2013	900.8	625.6	334.6	296.8	269.4	62.9	78.0
% Change	7.96	11.97	26.46	0.92	-2.29	-4.70	-3.94
2014	981.3	701.7	358.1	343.6	279.6	63.5	84.8
% Change	8.94	12.16	7.02	15.77	3.79	0.95	8.72
2015	1,083.4	787.8	380.8	407.0	295.6	66.4	90.3
% Change	10.40	12.27	6.34	18.45	5.72	4.57	6.49
2016	1,153.2	875.0	445.5	429.5	278.2	64.6	89.8
% Change	6.44	11.07	16.99	5.53	-5.89	-2.71	-0.55

*Details may not add to totals due to rounding

Source: Michael Davis, Joe Huesman, Linnet Holland (2016). "July Construction Spending in the United States (Billions Annual Rate), 2002-2016". U.S. Census Bureau News. U.S. Department of Commerce, Washington DC. 20233. <http://www.census.gov/constructionspending>

¹Detailed types of construction not available prior to 2002. ²Includes the following categories of private construction not shown separately: public safety, highway and street, sewage and waste disposal, water supply, and construction and development.

³Includes the following categories of public construction not shown separately: lodging, religious, construction, and manufacturing. Detailed types of construction not available prior to 2002.

Table 12: The United States Monthly All Employees in Construction (in thousands), Seasonally Adjusted, 2006 to 2016

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2006	7601	7664	7689	7726	7713	7699	7712	7720	7718	7682	7666	7685
2007	7725	7626	7706	7686	7673	7687	7660	7610	7577	7565	7527	7490
2008	7476	7453	7406	7327	7274	7213	7160	7114	7044	6967	6813	6701
2009	6567	6446	6291	6154	6100	6010	5932	5855	5787	5716	5696	5654
2010	5580	5500	5537	5553	5520	5516	5508	5524	5501	5508	5506	5467
2011	5427	5451	5477	5485	5516	5528	5547	5552	5584	5588	5593	5611
2012	5626	5626	5629	5626	5606	5622	5633	5647	5656	5673	5682	5728
2013	5741	5793	5814	5811	5831	5854	5857	5874	5900	5923	5954	5939
2014	5999	6020	6062	6103	6115	6128	6169	6194	6219	6233	6256	6301
2015	6351	6378	6371	6409	6426	6426	6437	6441	6451	6484	6549	6597
2016	6615	6628	6665	6659	6641	6635	6646 (P)	6640 (P)				

P = Preliminary

Source: Bureau of Labor Statistics (2016). "Construction Employment from Current Employment Statistics Survey (National)". Data extracted on September 15, 2016.

Table 13: Annual Total New Privately-owned Housing Units Authorized (Unadjusted Units) for United States, Regions, State of Georgia, and Metropolitan Atlanta Area, 1999-2015

Year	United States	State of Georgia	Atlanta, GA MSA	North East	Mid West	South	West
1999	1663533	89581	61046	164863	343599	748926	404345
2000 % Change	-4.28	2.5	5.19	0.14	-5.75	-6.28	-0.71
2001 % Change	2.79	1.35	1.64	-3.21	3.03	4.05	2.87
2002 % Change	6.78	4.80	1.97	8.72	5.61	8.28	4.33
2003 % Change	8.10	-0.84	-0.26	5.01	5.29	7.41	12.91
2004 % Change	9.57	12.05	11.49	7.95	-0.14	13.13	11.38
2005 % Change	4.12	0.90	-1.55	3.48	-4.47	8.15	3.08
2006 % Change	-14.68	-4.70	-6.31	-14.32	-21.06	-10.52	-18.51
2007 % Change	-23.95	-29.78	-34.42	-13.73	-24.21	-25.55	-24.45
2008 % Change	-35.26	-51.66	-56.90	-20.99	-34.95	-34.72	-42.78
2009 % Change	-35.61	-48.46	-66.14	-42.45	-27.15	-34.18	-40.68
2010 % Change	3.71	-5.28	15.95	7.74	3.16	0.57	9.84
2011 % Change	3.22	7.11	13.98	-7.22	-0.76	7.22	3.11
2012 % Change	32.95	31.67	66.55	23.71	29.46	33.41	39.31

2013 % Change	990822 19.43	36174 48.56	24297 ¹ 68.96	107075 26.39	156764 17.87	493332 15.32	233651 26.88
2014 [*] % Change	1046363 5.61	39423 8.98	26683 ² 9.82	118458 10.63	164034 4.64	519509 5.31	244362 4.58
2015 % Change	1182582 13.02	45549 15.54	30342 ² 13.71	161984 36.74	170584 3.99	572779 10.25	277235 13.45

Source: United States Census Bureau (2016). "Annual Building Permits Survey by United States, Regions, States, and Metropolitan Areas, 1999-2015." *American Housing Survey*. U.S. Department of Commerce. <https://www.census.gov/construction/bps/>

^{*}Universe refers to the number of permit-issuing jurisdictions canvassed for the Building Permits Survey. The Universe is updated every 10 years. The 2004 Universe included approximately 19,300 permit-issuing places, and was used from January 2004 to December 2014. The 2014 Universe included approximately 20,100 issuing places, used from January 2014 forward.

¹Atlanta-Sandy Springs-Marietta, GA; ²Atlanta-Sandy Springs-Roswell, GA. These represent metropolitan Areas where all permit offices are requested to report monthly.

Table 14: United States Seasonally Adjusted Home Ownership Rates (%), Total Housing Inventory Estimates ('000), Owner Occupied and Renter Occupied and Vacant Units ('000), and Owner and Rental Vacancy Rates (%), 2000-2015

Year	Home Ownership Rates Q4	All Housing Units ('000)	Owner-Occupied Units ('000)	Renter-Occupied Units ('000)	Vacant Units ('000)	Home Owner Vacancy Rates Q4	Rental Vacancy Rates 1 Unit Q4
2000	67.5	119,628	71,250	34,470	13,908	1.6	7.8
2001	67.9	121,480	72,593	34,826	14,470	1.8	8.8
2002	68.2	123,318	73,713	34,826	14,779	1.7	9.4
2003	68.5	120,834	72,054	33,506	15,274	1.8	10.2
2004	69.1	122,187	73,575	33,013	15,599	1.8	10.0
2005	68.9	123,925	74,553	33,678	15,694	2.0	9.6
2006	68.8	126,012	75,380	34,195	16,437	2.7	9.8
2007	67.8	127,958	75,159	35,147	17,652	2.8	9.6
2008	67.5	130,113	75,566	35,843	18,704	2.9	10.1
2009	67.2	130,159	75,014	36,330	18,815	2.7	10.7
2010	66.5	130,599	74,791	37,069	18,739	2.7	9.4
2011	65.9	132,292	75,091	38,443	18,758	2.3	9.4
2012	65.3	132,778	74,929	39,583	18,266	1.9	8.7
2013	65.1	132,799	74,668	40,004	18,127	2.1	8.2
2014	63.9	133,270	74,427	41,034	17,809	1.9	7.0
2015	63.7	134,700	74,706	42,639	17,355	1.9	7.0

Source: United States Census Bureau (2016). "Estimates of the Total Housing Inventory for the United States ('000), 2000-2015." *American Housing Survey*. U.S. Department of Commerce.

Current Population Survey, Series H-111, Bureau of the Census, Washington, D.C 20233

Table 15: Price Indexes of New Single-Family Houses Actually Sold Including Lot Value Nationally and Regionally in the United States, 2000-2015

Year	United States (Annual)	Northeast (Annual)	Mid-west (Annual)	South (Annual)	West (Annual)
2000	75.6	73.0	83.5	80.6	64.4
2001	77.9	76.7	84.4	82.8	67.1
2002	81.4	80.2	86.1	86.3	71.5
2003	86.0	84.3	90.6	89.4	78.2
2004	92.8	91.6	96.7	94.4	88.2
2005*	100.0	100.0	100.0	100.0	100.0
2006	104.7	102.6	102.9	105.4	105.2
2007	104.9	101.5	102.8	107.4	102.6
2008	99.5	100.8	98.9	103.7	92.7
2009	95.1	97.1	96.0	101.1	84.8
2010	95.0	101.1	96.9	99.5	85.4
2011	94.3	100.0	97.8	99.6	83.1
2012	97.6	102.1	101.5	102.7	86.3
2013	104.7	108.2	105.3	110.1	94.7
2014	112.3	120.0	113.1	117.2	102.6
2015	113.6	112.1	118.3	118.6	103.2

*(2005 = 100.0. Index based on kinds of houses sold in 2005).

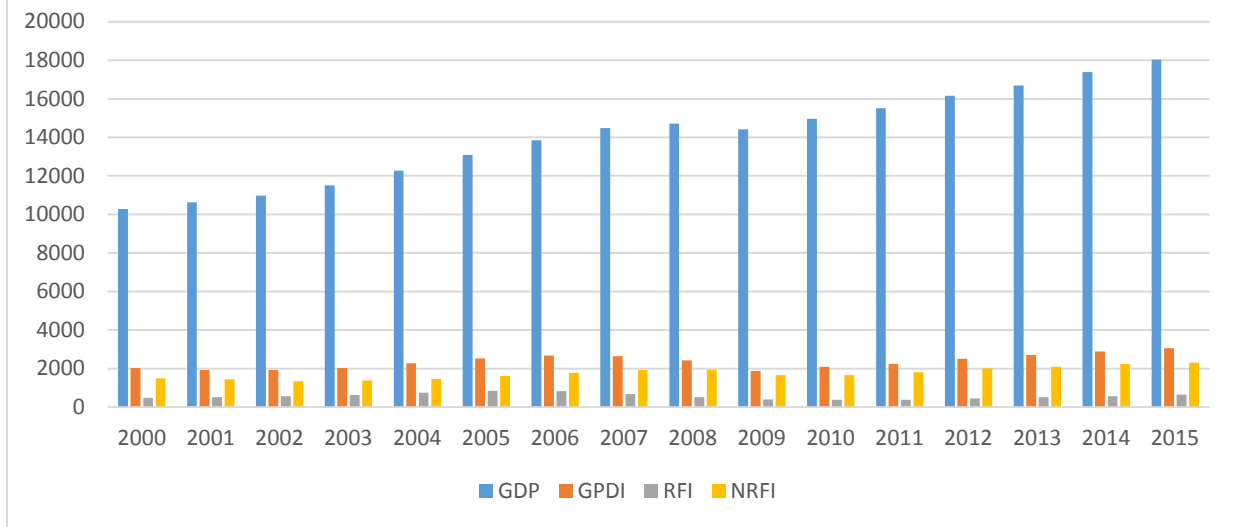
Source: U.S. Census Bureau (2016). *United States Department of Commerce News*. Economic and Statistics Administration, Washington DC 20230.

Table 16: Average Sales Price of Single-Family Houses Actually Sold Nationally and Regionally in the United States, 2000-2015

Year	U.S. (\$)	% Change	North East (\$)	% Change	Mid-West (\$)	% Change	South (\$)	% Change	West (\$)	% Change
2000	207,000	5.8	274,800	10.9	199,300	6.7	179,000	3.5	238,900	7.8
2001	213,200	3.0	294,300	7.1	201,300	1.0	185,700	3.7	250,000	4.6
2002	228,700	7.3	301,300	2.4	209,800	4.2	197,500	6.4	276,500	10.6
2003	246,300	7.7	315,700	4.8	218,200	4.0	208,900	5.8	306,800	11.0
2004	274,500	11.4	366,100	16.0	240,800	10.4	232,800	11.4	340,000	10.8
2005	297,000	8.2	397,000	8.4	249,800	3.7	249,200	7.0	388,700	14.8
2006	305,900	3.0	428,300	7.9	257,100	2.9	257,700	3.4	405,900	4.4
2007	313,600	2.5	437,700	2.2	256,800	-0.1	269,800	4.7	403,700	-0.5
2008	292,600	-6.7	475,500	8.6	250,000	-2.6	253,400	-6.1	361,500	-10.5
2009	270,900	-7.4	411,300	-13.5	227,700	-8.9	241,200	-4.8	321,600	-11.0
2010	272,900	0.7	415,800	1.1	232,800	2.2	244,900	1.5	316,600	-1.6
2011	267,900	-1.8	389,900	-6.2	241,700	3.8	248,900	1.6	301,800	-4.7
2012	292,200	9.1	418,600	7.4	270,300	11.8	266,100	6.9	321,300	6.5
2013	324,500	11.1	469,900	12.3	301,500	11.5	292,600	10.0	368,900	14.8
2014	345,800	6.6	545,200	16.0	316,700	5.0	306,900	4.9	397,500	7.8
2015	360,600	4.3	618,500	13.4	331,000	4.5	322,200	5.0	418,700	5.3

Source: U.S. Census Bureau (2016). *United States Department of Commerce News*. Economics and Statistics Administration, Washington DC 20230.

Figure 1: United States Annual Gross Domestic Product, Gross Private Domestic Investment, Residential Fixed Investment, and Non-Residential Fixed Investment, 2000-2015



Source: Adapted from Table 9: Annual United States Gross Domestic Product (Billions of Dollars): Expanded Details, 2000-2015.

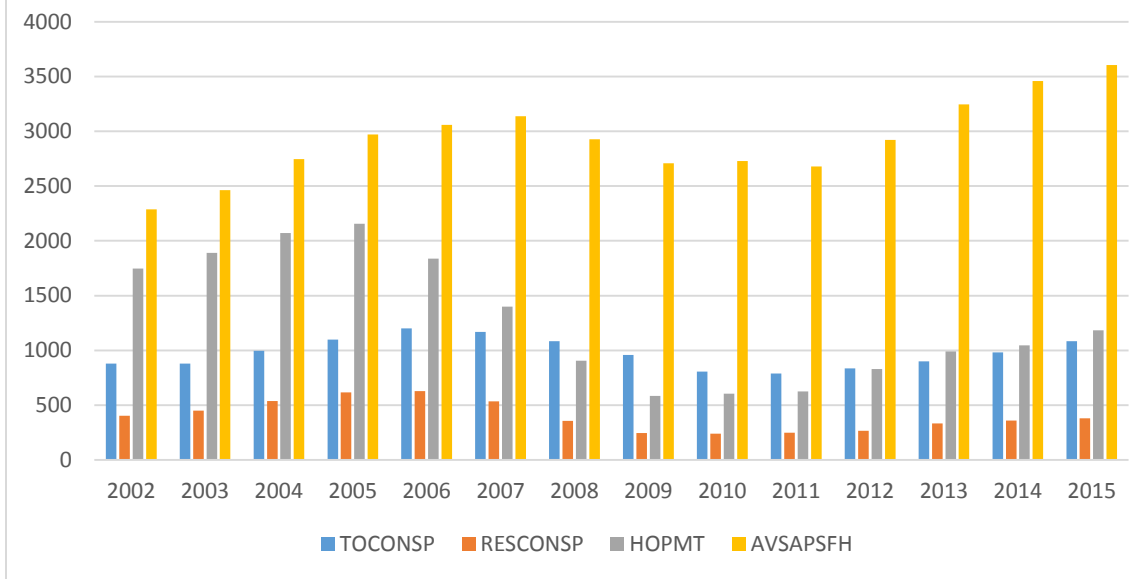
GDP: Gross Domestic Product

GPDI: Gross Private Domestic Investment

RFI: Residential Fixed Investment

NRFI: Non-Residential Fixed Investment

Figure 2: United States Total Construction Spending, Residential Construction Spending, Total New Privately-owned Housing Permits, and Average Sales Price of Single-Family Houses, 2002-2015



Source: Adapted from Tables 11: Constructions put in place Spending Annual Rates (\$ Billions); Table 13: Annual Total New Privately-owned Housing Units Authorized for United States; and Table 16: Average Sales Price of Single-Family Houses Actually Sold Nationally, 2002-2015.

TOCONSP: Total Construction Spending (\$ Billions)

RESCONSP: Residential Construction Spending (\$ Billions)

HOPMT: Housing Permits (Thousands)

AVSAPSFH: Average Sales Price of Single Family Houses (\$ Hundreds)

The Emerging Role of Artificial Intelligence in Human Service
Delivery and Education:
A Conceptual Overview

Randall E. Basham
The University of Texas at Arlington

Abstract

This paper will articulate a conceptual overview of online content currently available to assess the development of AI to improve human service delivery and social services as well as to enhance and improve educational service delivery and human condition outcomes.

Artificial intelligence has been the subject of substantial optimism and being of service to improving human lifestyles. AI has become an integral aspect of the technology industry and is affecting information science transportation economic and manufacturing services. However, there are emerging applications of AI in the improvement of human welfare, health, and educational attainment. Each of these will be addressed in the conceptual review to follow.

Introduction

Artificial intelligence may be thought of as the intelligence like qualities exhibited by computing machines or software. Artificial intelligence, or AI, is also an academic field of study. Artificial intelligence attempts to render aspects of humanlike intelligence from machinery or computing devices. AI is a highly technical and specialized area of research divided into subfields that are not well integrated. The AI field of study and design is concerned with the development of intelligence agents within a system that perceives its environment and takes action and that maximizes its chances of succeeding. AI may be defined as the science and engineering of making intelligent machines.

AI research is divided into disparate and at times competing subfields of knowledge oriented toward solving a particular problem or developing a particular tool or application. These subfields are divided in part due to various social and cultural factors related to the application and its consequences on human communities. Additionally, some AI research is specific to unique institutions within government, industrial, and military organizations, of which a number of applications have direct relevance for improvement of other nonrelated human problems.

The core problems or solutions sought by AI researchers include machine reasoning, knowledge acquisition, machine planning machine learning and natural process processing or communication as well as machine perception and the ability to move and manipulate objects. The acquisition of general intelligence or independent intelligence remains among the longer-term goals of scientists and researchers concerned with some popular approaches include statistical methods computational intelligence and traditional symbolic space AI. More recently has become the interest of a number of interdisciplinary fields which a number of sciences and professions converge these have included computing science psychology linguistics education and neuroscience but more recently have included human knowledge acquisition and education and improving the capacity to deliver human services efficiently.

Much of recent news media coverage on artificial intelligence has been concerned with AI capacity to improve rapid manufacturing and distribution techniques, for military and intelligence gathering applications, and in emergent concerns of artificial intelligence to supersede human intelligence in aggregate. AI is presumed to have the capacity for rapid and dramatic improvement of human health and the human condition and also contains the inherent risk of machine domination or eradication of the human species.

This paper will articulate a conceptual review of online content currently available to assess the development of AI to improve human service delivery and social services as well as to enhance and improve educational service delivery and human condition outcomes. Artificial intelligence has been the subject of substantial optimism and being of service to improving human lifestyles. AI has become an integral aspect of the technology industry and is affecting information science transportation economic and manufacturing services. However, there are emerging applications of AI in the improvement of human welfare, health, and educational attainment. Each of these will be addressed in the literature review to follow.

Conceptual Overview

The history of artificial intelligence is synonymous with the history of the development of complex machines to provide narrative storytelling or computation and reasoning to resolve problems. Much of the more recent conceptualization of artificial intelligence derives from the work of Alan Turing who conceived that by reset shuffling symbols as simple as zero and one that machines could learn to problem solve and deduce the solution to nearly any problem. The understanding that digital computers can simulate any process associated with formal reasoning has become known as the church-Turing thesis. Additional advances in neurology neurobiology information processing and cybernetics led researchers to consider the possibility of building an electronic brain.

The founders of modern AI research emerged from a workshop held at Dartmouth College in 1956. Scientists and their students developed simple computers to learn gaming strategies and eventually to play better than human beings. These advances were followed by advances in solving word problems with machine learning and proving theorems of logic. Machines thought to be capable of learning any task that humans could accomplish and doing any work that humans could do within the following generation (AI Topics, 2018).

Gradual advances in artificial intelligence.

Though additional machine learning tasks have proven difficult to develop, AI eventually began to be used for logistics and data mining and indeed pattern detection within complex sets of data. Deep learning tasks followed and were developed to include advances in machine learning and self-perception advanced algorithms are now being used to sort communication messages complete competing complex gaming and provide affordable neural networks. AI has begun to resolve problems and reasoning and problem-solving knowledge representation planning learning natural language

processing perception motion a manipulation social intelligence creativity and general intelligence such that AI is creating tautologies allowing computers machines to function in an intelligent and an anticipated eventual independent manner (AI Topics, 2018).

Machine learning and information technology

Artificial intelligence and machine learning have become heavily infused with the utilization of information technology. Machine learning permits automated text classification, which permits rapid search and location of terms documents and concepts. In addition, information technologies are enhanced with respect to information retrieval and the development of neural networks to organize and analyze digital content. Data mining and classification and clustering of data through artificial intelligence applications permit rapid pattern recognition, and assistance for human interpretation of massive data sources (SAS, 2018).

A number of computing and machine learning enhancements allow data to be reorganized and graphically represented such that information can be visualized for better understanding and utilization. Further, machine learning can be organized to classify concepts and sword very ideas into hierarchies. Data or materials can be distributed optimally and various sorts of statistical learning improves analysis and process control (SAS, 2018).

Artificial intelligence is capable of conducting materials ideas and content into various decision trees. These decision trees enhance capacity for human performance and overcoming tedium and fatigue in organizing and processing materials and information. Interestingly, as a safeguard for crisis intervention and protection of organizational and personal information, machine learning is increasingly utilized in computer intrusion detection. Moreover, relative to information technology, artificial intelligence is capable of performing computational thinking and self-correcting or self-evaluation of its own performance (SAS, 2018).

Machine learning and human service automation

One mechanism which is at the early development phase of human service delivery involving machine learning is the machines capacity within human services to automate systems and provide knowledge sharing. Interaction with remote services across prior language barriers and access issues to provide text based and wireless data has and will continue to improve access to democratic processes scientific and procedural information government communication and essential information sharing services. AI may continue to improve on this development by deploying complex algorithms to determine best fit information needs for receiver organizations and those having information to share. Machine learning is anticipated to rapidly overtake the speed of human decision-making in providing essential information to those most in need (Fishman, William, Eggers, and Kishnani, 2017).

In addition, by utilizing AI to coordinate product manufacture and transportation essential devices and products may be custom created as need or anticipated needs arises among fragile groups, and resource individual parties, and oppressed or

marginalized communities. Machine learning has advanced to a state right human-based manufacturing and distribution services may be replaced with machine dominant systems to duplicate every human input into the creation of a product through traditional manufacturing, or more unique products through the advent of 3-D printing with these being delivered by way of an emerging transportation revolution directly interfaced with machine learning systems (Fishman, et. al., 2017).

Agriculture and human food source production is also becoming heavily augmented by both machine supervised agricultural methods and computing supported bio-products manufacture and distribution. Matching human need and product or service delivery would require some tracking of the recipient population are persons. However, AI is fully capable of improving distribution products in addition to human service delivery and information access. Human capacity or responders may also be more rapidly deployed and don't and more exacting specialization through machine learning directives (Fishman, et. al., 2017).

Machine learning and human betterment

Recently, scholars have postulated that artificial intelligence could be utilized for human and societal betterment. Machine learning or artificial intelligence applications are capable of sampling the environment and determining schedules to perform ecological testing to prevent harm to children and vulnerable adults. Such tests could include building paints, architectural standards, water purification and the potential for exposure to other harmful elements. Public health inspectors could address health hazards and risks to communities more efficiently and more rapidly. Selected medical records could be scanned to identify pregnancies or children at risk within local environments who may or may not be offered additional testing or treatment (Wei, and Baofeng 2016).

Artificial intelligence could readily be used to track at risk youth having a high likelihood of school dropout. Social factors, employment factors, economic factors, school performance issues, and juvenile databases relative to crime could be accessed to determine the risk factor of non-completion of school for any particular student. Additional advising, tutoring, community programs and social and familial supports could be provided to assure success.

Public safety could potentially be enhanced through identification of public service servants to include the police who may be at risk of performance issues within their career such as excessive violence, absenteeism, and adequate past performance, inadequate training schedules, and records of incidents that led to administrative review. Additional supports could be provided to include paid leave her training leave to improve performance and reduce risk (Wei, and Baofeng 2016).

There is the need to develop data infrastructure and data platforms of which human services decision-makers public service providers could identify at risk individuals and populations. Such datasets might include healthcare data educational data criminal records public servant job performance records and even economic or tax data.

Community betterment could include such things as economic development. Home and building inspections or small business inspections could occur with more frequency if the process and scheduling accelerated with the aid of artificial intelligence. Areas needing infrastructure repairs, or maintenance, could be identified more quickly and prevent failed infrastructure issues. With sufficient effort, urban blight could be reduced and neighborhoods and communities maintained prosperously and safely (Wei, and Baofeng 2016).

There are a number of possible ways that artificial intelligence could be deployed to improve social networks. Human service delivery entities could benefit from improved data collection and maintenance and analysis around community priorities. Data sources could be integrated such that they work in combination to provide more accurate assessments of community problem areas and prevent negative outcomes. Machine learning statistical and predictive models of group and individual behaviors could be enhanced to improve community interventions. Public policies could be assessed over time for effectiveness and modified upgraded or abolished based upon their data-driven evidence of effectiveness (Wei, and Baofeng 2016).

Machine learning and the reduction of poverty

More compelling in recent years is the emerging conceptualization that artificial intelligence or machine learning can address at least partially the causes of poverty and perhaps provide some solutions for the reduction of poverty. This is, of course, a major humanistic goal for social scientists and human service delivery organizations. Though there is an understanding among industry leaders and government decision-makers that there is a threat of artificial intelligence leading to large-scale unemployment in some sectors of occupations, there is also a possibility of matching the unemployed to available trades and occupations or training for such.

Machine learning in combination with the earlier mentioned learning management systems could address preparation for occupations through differential education and match students individually with varying learning styles or strengths with specified occupational outcomes. Such training could reduce the costs of government services by reducing dependency on the services. Training and job matching in combination with directed artificial intelligence may serve to reduce struggling for employment and improve job placement satisfaction. Occupational, personnel, and other large data sets could examine trends in employment or expected trends in employment and predict future job openings sometime before their needed (Mason, 2018).

Machine learning in education and delivery of education

In terms of education, and the delivery of educational content artificial intelligence has made great strides to facilitate education within the past few years. Coding and programs have been developed to permit machine learning to better understand student patterns of performance and thereby understand the various ways of which students learn. This process becomes helpful in informing educators and educational program decision-makers via the provision of differential data sets to and analyze and

comprehend the educational needs of individual students and in aggregate course cohorts and classes in their entirety.

A number of learning management systems (LMS) and educational platforms for course delivery have been developed that immerse the student into the learning experience. These systems are also referred to as virtual learning environments and may use three-dimensional data processing and imaging, avatars augmented reality virtual reality and the interaction of hardware machining and robots to facilitate the educational experience. These applications are assisting with astronomical discovery, Earth ecosystem and environment discovery, raw materials identification and extraction, scientific and medical training, and various professional and technical occupations (New Media Consortium, 2017).

Learning management systems are more broadly used to facilitate classroom instruction provide hybrid or blended courses which are partially face-to-face and online and for completely online educational training. These serve as a portal for students to access content relative to a course, submit assigned work and receive feedback on performance. There is controversy among educators as to whether these platforms serve the role of learning, or more simply the administration of learning content.

An emerging theme in developing advanced learning management systems is the capacity for the student learner to gain greater personalization of learning content while adhering to common learning platform design standards and to increase the role of artificial intelligence relative to formative learning and assessment. These advanced learning management systems are being designed to allow the reorganization and repurposing of learning content in an endless variety of learning opportunities. Emerging educational applications would permit unique personalization and improved engagement (New Media Consortium, 2017).

Artificial Intelligence and planned obsolescence of the educator

A number of disparate and varied applications and engineering marvels have begun to merge to provide some potential for eventually taking over the development of education content, syllabi, and assessment of student competency. Coupled with advanced learning management systems in continual reduction in barriers to access of content, these innovations have emergent capacity to replace human educators entirely over time (Barnwell, 2017).

Educational content can be delivered by avatars, or Computer Generated Imaging (CGI) to provide model instructors, document readers and eventual computer rendered graphical representations and illustrations, can provide rich understanding of complex constructs. A number of fairly effective computing programs currently exist and are improving to offer online assessment, online tutoring's, and even the capacity to read and grade accurately written assignments, both for content and writing style.

Segments of the educational industry itself is at risk for planned obsolescence. Improved machine learning systems, may make decisions about which content and knowledge is most useful to make available and in what formats based on computer perceived

occupational or production needs, without consideration to various codes of values or ethics that would have apply to human delivery systems.

The future of Artificial Intelligence in human services and education

Artificial Intelligence or advanced applied machine learning holds promise of steady gains, in improving error reduction, and providing more reliable and efficient services in human service delivery and education. Though AI is not seen as a panacea to resolve all human disparities and limitations, there is substantial optimism for a more equitable distribution of goods and services, as well as, knowledge and skill development among those whom previously had limited access to education or reliable employment. There is no corresponding engineering model for resource and wealth distribution, however. The late Dr. Stephen Hawking, recently observed (Grossman, 2015);

“If machines produce everything we need, the outcome will depend on how things are distributed,” he wrote. “Everyone can enjoy a life of luxurious leisure if the machine-produced wealth is shared, or most people can end up miserably poor if the machine-owners successfully lobby against wealth redistribution.”

DISCUSSION

There are a number of anticipated technology based revolutions in process and likely to occur over the next few years. Most of these will incorporate aspects of Artificial Intelligence or machine learning. Some of those expected, include rapid technological advances in manufacturing, development of stable food supplies, reductions in common illnesses, low cost and readily available transportation, home delivery of almost any needed product, more efficient and comfortable housing, and lower energy costs. Likely most of these will affect humans service delivery and education and training of rapidly changing workforces. A number of large economic benefits will likely be realized, though the equity of distribution of these benefits is less certain.

More certain though, is the probability that human services and education will be transformed to increasingly rely less on human input. Artificial Intelligence and /machine learning which only a few tears previous were thought to be far futuristic scientific and engineering goals are rapidly approaching as pragmatic realities of our time. Those key decision makers in both human services and education at all levels need to be transitioning now to meet this new service reality.

REFERENCES

- AI Topics; An Official Publication of the AAI (2018). A brief history of AI. Retrieved from <https://aitopics.org/misc/brief-history>
- Barnwell, P., (2017). Are Teachers Becoming Obsolete? Retrieved from <https://www.theatlantic.com/education/archive/2017/02/becoming-obsolete/516732/> (February 2017)
- Fishman, T., D., William D. Eggers, W., D., and Kishnani, P. (2017). AI-augmented human services Using cognitive technologies to transform program delivery. Retrieved from <https://www2.deloitte.com/insights/us/en/industry/public-sector/artificial-intelligence-technologies-human-services-programs.html> (October 2017).
- Grossman, S. (2015). Stephen Hawking Revealed Life's Most Intriguing Mystery in His Reddit AMA. Retrieved from <http://time.com/4066421/stephen-hawking-reddit-ama/> (October 2015).
- Hager, G.D., Drobnis, A., Fang, F., Ghani, R., Greenwald, A., Lyons, T., Parkes, D., C., Schultz, J., Saria, S., Smith, S. F., and Tambe. M., (2017). Computing Consortium Report: Artificial Intelligence for the Social Good; Workshop Report: Funded by; National Science Foundation under Grant No. 1136993. Retrieved from <https://cra.org/ccc/wp-content/uploads/sites/2/2016/04/AI-for-Social-Good-Workshop-Report.pdf> (March 2017).
- Elmes, J. (2017). Six significant challenges for technology in higher education in 2017. Retrieved from: <https://www.timeshighereducation.com/features/six-significant-challenges-technology-higher-education-2017#survey-answer> (February 2017).
- New Media Consortium (2017). NMC Horizon Report: 2017 Higher Education Edition. Retrieved from <https://www.nmc.org/publication/nmc-horizon-report-2017-higher-education-edition/>
- Mason, E. (2018). AI and big data could power a new war on poverty. Retrieved from <https://www.straitstimes.com/opinion/ai-and-big-data-could-power-a-new-war-on-poverty> (January 2018).
- SAS, The power to know (2018). Artificial Intelligence and why it matters. Retrieved from https://www.sas.com/en_us/insights/analytics/what-is-artificial-intelligence.html
- Wei, A. and Baofeng, Z. (2016). Using AI for the betterment of humanity: Keeping it real with Educated AI, Huawei 2012 Labs. Retrieved from <http://www.huawei.com/en/about-huawei/publications/winwin-magazine/AI/using-ai-for-betterment-of-humanity> (September 2016).

Obstacles to Judicial Redistricting

Christopher M. Baxter, Ph.D.
The University of Tennessee at Martin

The “one person, one vote” concept that has evolved in the federal courts since the landmark *Baker v. Carr* and *Reynolds v. Sims* decisions has essentially never been interpreted to apply to state trial court districts. While federal judges have long held that there is a constitutional interest in insuring that legislators represent approximately the same number of constituents, no such interest has been found in insuring that trial judges have comparable constituencies; as Chief Justice Roberts succinctly put it in *Williams-Yulee v. Florida Bar* (575 US __, 2015), “Judges are not politicians.” Without the fear of judicial review compelling redistricting, many state legislatures have chosen to leave trial court districts unaltered for decades, despite significant changes in both the populations of those districts and the number of cases being handled in them. The result has been wide variances in caseloads of trial courts, district attorneys, and public defenders. Regular redistricting could easily alleviate the disparities, and presumably the redistricting process would not entail the partisan power struggles that often accompany legislative redistricting. In recent years, however, the reality in some states is that partisan and institutional conflicts have created significant barriers to objective redistricting, despite the availability of data that could lead to a more objective and balanced workload for state judicial officials.

Political Barriers to Redistricting

The Case of North Carolina: Partisan Conflict as a Barrier

North Carolina redrew its state legislative and congressional districts after the 2010 census, but both plans were the subject of significant federal court scrutiny, including three separate visits to the U.S. Supreme Court. Democrats attacked the district maps of the Republican-led state legislature as being driven by partisanship, and multiple lawsuits further alleged that the maps were impermissibly driven by racial considerations. In May 2017, the Supreme Court in *Cooper v. Harris* (581 U.S. __, 2017) upheld a U.S. Court of Appeals ruling that the state’s 1st and 12th U.S. House districts were racial gerrymanders. The Supreme Court was simultaneously considering a challenge to the state legislative districts on the same grounds. At least six lawsuits had been filed challenging the state’s House and Senate districts drawn in 2011 as racial gerrymanders (Blythe, 2017).

The U.S. Supreme Court was considering two separate challenges to the state legislative districts at the time that it released its decision in *Cooper*, one coming from the state courts and one from the U.S. Court of Appeals. In the state courts, the North Carolina Supreme Court twice found that while the legislature did consider race in drawing the districts, the legislature was acting to comply with the Voting Rights Act in doing so. The Supreme Court sent the request to review that case back to North Carolina’s Supreme Court for a third time in light of the finding that the Congressional districts had been racially gerrymandered. A week later, in June 2017, the U.S. Supreme Court upheld a ruling from the U.S. Court of Appeals in a separate case that found that 28 state districts were, in fact, racial gerrymanders. The Supreme Court reversed the lower court’s order to force North Carolina to hold special elections in 2017, but it allowed the court to continue to oversee the legislature’s redrawing of the

offending district lines. North Carolina met a September 1, 2017 deadline to submit a new districting plan (Blythe, 2017; Robertson, September 12, 2017), and the public debate was put on hold awaiting the court's review.

With the dispute over legislative districting on hold awaiting the federal court's ruling in September 2017, North Carolina legislators might have chosen to enjoy the break in six years of partisan conflict over district lines. Instead, against this backdrop of partisan-driven legislative and judicial fights, the legislature initiated a new conflict by proposing to redraw the state's judicial districts. The state's general jurisdiction trial courts, the Superior Courts, are divided into fifty districts spread across eight divisions. While small changes to the district lines have been made over the years, comprehensive redistricting had not taken place in since 1967. With little public notice, the House approved a new district map on October 5. Democrats attacked the plan as being drawn to favor Republican candidates and to decrease the number of African-American judges; Rep. Duane Hall stated that 65 percent of African-American judges had been "double-bunked" in the House plan, meaning that sitting incumbents were being put in the same district and forced to run against each other (Fain, 2017). The Senate had adjourned until January 2018 before voting on the plan, but both houses did pass legislation canceling the judicial primaries scheduled for May 2018 since the districts would be changing prior to the general election.

In the message accompanying his veto of the bill canceling the primaries, Democratic Governor Roy Cooper condemned the Republicans' actions as an attempt to "rig" the elections and take away voting rights because the "legislature is angry that their bad laws continue to be overturned by the courts." The legislature overrode Cooper's veto on a largely party-line vote (Robertson, October 15, 2017). Republicans in the legislature asserted that canceling the primaries would allow more time to study judicial district lines and to possibly consider a constitutional amendment changing the method of judicial selection in North Carolina; media reports during this time indicated legislators were considering either legislative appointments or merit selection as possible alternatives to electing trial judges (Fain, 2017; Robertson, October 15, 2017). In January, a federal district judge ordered the state to hold primaries for statewide judicial offices but allowed the cancellation of district court primaries, citing the legislature's intention to redraw the lines as an acceptable reason to forego the primaries (Blythe, 2018).

There are compelling reasons, other than partisan pressure, for periodically reviewing the district lines. Most states collect data relating to the workloads of their individual trial courts. As in most states, data in North Carolina indicate significant differences in caseloads across the districts. In the fiscal year ending June 30, 2010, two of the districts disposed of over 10,000 criminal cases, while five others disposed of fewer than 200 (North Carolina Administrative Office of the Courts, 2010). Caseload disparities data alone do not necessarily indicate problems, as they do not take into consideration other relevant variables (e.g., available judges and staff), but such data are typically central to any discussion of the need for redistricting. The General Assembly's 2017 redistricting fight in North Carolina (or at least the media coverage thereof) devoted significant attention to the possible electoral consequences for the political parties, but little was said about the districts' workloads.

In many states there are administrative entities that monitor workloads and make recommendations regarding the need for redistricting; North Carolina is one of those states. The North Carolina Courts Commission was created in Article 40A, § 7A-508 to “make continuing studies of the structure, organization, jurisdiction, procedures and personnel of the Judicial Department and . . . to make recommendations to the General Assembly.” Reviewing the soundness of the trial court districts falls under its authority. When the Republican redistricting plan was introduced in the House in September 2017, the Commission discussed the plan at a meeting later that month. During the Commission’s deliberations, the members agreed that redistricting was a “critical” issue, and some agreed that changes to district lines needed to be made. Two members expressed concern that the process was moving too quickly, and at least one other believed the current process lacked transparency. Two judges on the Commission stated that the House plan would create backlogs in the court system. By a 9-5 vote, the Commission recommended postponing any consideration of districting until the legislature reconvened in early 2018. In response to the Commission’s vote recommending delaying the process, Rep. Justin Burr, the House sponsor of the redistricting bill, said, “Unfortunately, with action like today, they [the Commission] continue to show just how irrelevant they are and that they’re not willing to really take steps to reform and update our court system.” A week later, the House voted to approve the Republican plan, despite the Commission’s calls for restraint (Leslie, 2018). Again, while there are compelling reasons, other than partisan pressure, for periodically reviewing the district lines, it seems that the partisan forces are the ones that make the greatest impact.

The Case of Tennessee: Institutions and Inertia as Barriers

On March 11, 2013, Tennessee Lieutenant Governor Ron Ramsey unveiled his plan for redrawing the district lines of Tennessee’s Circuit Courts, the state’s general jurisdiction trial courts. The districts had last been redrawn in 1984, when the offices of circuit judges, district attorneys, and public defenders were all consolidated into 31 unified districts. Circuit judges are elected in partisan elections, and while Ramsey stated that the 1984 plan was influenced by “particular politics of the time,” the goal of his plan was to correct “untenable inefficiencies” resulting from that plan (qtd in Humphrey, 2013, March 11). The proposed changes were relatively modest, with only eight of the thirty-one circuits seeing any changes under the plan. In one case, a circuit just outside Nashville that had experienced considerable growth would be split into two circuits; in two other instances, smaller, rural circuits would be consolidated. The net effect would be decreasing the number of circuits from thirty-one to twenty-nine, which Ramsey estimated would save the state \$600,000 per year. The bill also required the state’s Administrative Office of the Courts to reassess the districts every 10 years.

Despite an ostensibly modest plan and minimal partisan conflict (Republicans held overwhelming margins in both houses), just over a month later, Ramsey’s redistricting plan was defeated in a 28-66 vote in the House of Representatives. Most of the opposition to the plan had come from local government officials in the districts that were being considered for consolidation, who argued that the redistricting was unnecessary and would cause delays in the disposition of cases (Justice, 2013). During the House debate on the bill, the most vocal critic was a state representative from one

such district. During the floor debate in the House, rather than focusing his comments on the concerns about judicial delays, he instead fueled an inter-house rivalry to combat the bill. “This bill came from the Senate, plain and simple,” said Rep. Bill Sanderson, R-Kenton. “They have been dictating from the get-go how this session should run. Let’s draw a line in the sand. Vote no on the bill, because it’s not our bill.” (qtd in Humphrey, 2013, April 19). The House action led to an apparent retaliation from Lt. Gov. Ramsey and the Senate the following week: the Senate adjourned for the year without considering a major local government charter reauthorization bill that the House had already approved. There were reports the same week that the Speaker of the House and the Senate sponsor of the charter bill were observed in a “heated exchange” in the halls of Legislative Plaza (Baker, 2013).

Tennessee has been one of the few states that has been active in monitoring caseloads across judicial districts (see discussion below) and arguably had sufficient data to justify redistricting. There is little reason to believe partisanship would have posed the same barrier to redistricting that it did in North Carolina. Even so, a simple rivalry between the House and Senate was sufficient to derail an effort to update Tennessee’s judicial districts. As of March 2018, there had been no further attempt by the General Assembly to redraw the state’s district lines.

The Case of Kentucky: Local Politics as a Barrier

The title of a 2017 *Governing* magazine article concluded what observers in North Carolina and Tennessee already knew: “Judicial Redistricting: Issue Politicians Don’t Want to Discuss” (Wogan). The focus of the article was Kentucky’s efforts to redraw trial court lines that had existed since 1893. The commonwealth’s chief justice headed an effort to redistrict in 1980s that met with failure. In 2014, the legislature asked current Chief Justice John Minton, Jr. to try again; in his own words, Minton was a “reluctant participant”: “No community wants to be told it’s got to give up a judgeship. There are going to be some who gain and some who lose. And those who lose, they speak up” (qtd in Wogan).

A third-party study revealed caseload disparities not only across geographic districts but also along functional lines. While there appeared to be an adequate number of district and circuit judges, there were too few family court judges to deal with an increase in the number of child abuse and neglect cases (driven in part by the much-publicized national opioid epidemic). Subsequent research revealed that the system did not account for workload disparities beyond a simple tally of cases; while the average traffic charge takes less than three minutes to adjudicate, the average juvenile case consumes forty-eight minutes. The existing system was simply not an efficient one (Wogan).

Over a two-year period, Chief Justice Minton and his group, well aware of the political lessons from his state and others, developed a plan to restructure the state’s trial court system. The plan did not abolish any judgeships, avoiding resistance from sitting incumbents. Under the proposal, any changes to the districts would not take effect until the 2022 election, when all of the positions were already scheduled to be up for re-election. Most of the added cost to the state, estimated at approximately \$2 million, would help hire new family court judges.

As in the case of Tennessee, partisanship did not appear to pose an obstacle for legislative enactment of the plan; both houses of the Kentucky legislature were controlled by Republicans. But as in Tennessee, an inter-chamber rivalry proved fatal; the bill passed in the Senate in March of 2017, but it never emerged from committee in the House. The bill's Senate sponsor pledged to try again in the future, hoping there would be time to "educate" House members on the bill (Wogan, 2017).

As Wogan (2017) notes, for reasons like those seen in Kentucky, large-scale redistricting is now a rarity, and incrementalism in the new normal. In 2015, Montana's legislature was presented a report concluding that the state needed 21 new judgeships, driven in large part by the same increase in child abuse and neglect cases witnessed in Kentucky. A commission considered and rejected 6 different redistricting plans. The legislature considered a proposal to add 5 new judgeships; ultimately it approved adding 3.

Remedies: Is There Hope?

In each of the states discussed here, advocates for system-wide redistricting have abundant data to both document the need for change and facilitate meaningful, detailed solutions; in each case, however, the barriers are rooted in simple electoral politics. Solutions both old and new are being considered to break the redistricting gridlock, with varying potentials for success.

Independent Commissions

Delegating redistricting decisions to independent commissions is already in practice in many states. Thirteen states give such commissions primary responsibility for redrawing state legislative districts, and advisory commissions are utilized in five others. Such arrangements have the intuitive appearance of avoiding partisan fights over gerrymandering, though few would argue that these commissions have removed partisanship from the process altogether. Currently, use of such a body for judicial redistricting is limited. Missouri's legislature passed legislation in 2013 creating an independent "judicial conference"; the body will make redistricting recommendations every 20 years beginning in 2020, but the legislature will retain the power to reject any proposal in favor of its own (Wogan, 2017).

The idea of an independent commission offers limited relief for the political barriers discussed here. As noted earlier, North Carolina already has such a commission, but its 2017 recommendation regarding redistricting was ignored by the legislature. Tennessee would have created a similar advisory commission under the legislation discussed earlier, but that legislation was of course defeated by the state's House of Representatives.

Judicial Intervention

While the federal courts have never held judicial district malapportionment to raise the constitutional concerns cited in *Baker v. Carr* (369 US 186, 1962) and its

progeny, recent litigation in the states may open the door for judicial intervention on other constitutional and policy grounds. In recent years, some states have faced litigation alleging that regular underfunding of public defender's offices is leading to delays in prosecutions and overworked attorneys. In some states, public defenders are assigned four times the number of felony cases recommended by the American Bar Association. In 2016, litigation in Idaho led the legislature to give counties an additional \$5.4 million to aid counties in providing legal representation for the poor. The State of New York settled a similar lawsuit in 2014, leading the state to increasing funding to the counties for public defenders in the short term and ultimately assuming all such costs by 2023. Utah's legislature took the initiative by creating an Indigent Defense Commission to study defense systems and to provide additional funding where needed. Indiana and Mississippi are considering similar measures. Despite Utah's aggressive stance on the issue, the state was sued by the American Civil Liberties Union for continued inadequacies in some systems (Greenblatt, 2016).

The future connection between underfunded public defenders and judicial redistricting is only speculative at this point; no state has redistricted solely due to pressure from such litigation. However, since overburdened trial courts often mean overburdened public defenders, in the future it is conceivable that states will feel pressure to correct caseload imbalances by redistricting, if only to avoid litigation over underfunded public defender's offices.

Quantitative Fixes

The political challenges of system-wide redistricting may be too daunting for state legislatures to address, and it may be that incremental fixes are destined to be the only viable solution for the foreseeable future. If so, data and methodology are available to assist states in insuring that their incremental fixes are logical and efficient ones. The National Center for State Courts has developed a system of ten performance measures called "CourTools" (coutools.org) that can be applied to identify issues with performance in trial or appellate courts. Using measures for factors such as "time to disposition" and "cost per case," the system can identify potential problem areas that burden the delivery of justice and ultimately burden taxpayers. If state legislatures are now predisposed to only make isolated adjustments to district court caseloads, such measures will at least allow them to identify the areas of greatest need. It should be noted, however, that the political dangers remain. Tennessee had been monitoring caseload data prior to the 2013 redistricting proposal discussed above, and the data were cited by Lt. Gov. Ramsey in support of the ill-fated proposal.

Conclusion

For reform-minded observers of state trial courts, it is tempting to conclude that the absence of system-wide redistricting is a casualty of simple political gridlock. Based on the cases presented here, there is clearly an awareness of the inefficiencies and inequities that exist across trial districts. As simple as the solutions seem to be to some observers, implementing those solutions means overcoming some of the longest-standing divisions in American politics: party vs. party, House vs. Senate, and urban vs.

rural. During its current term, the U.S. Supreme Court has shown renewed interest in the centuries-old practice of partisan gerrymandering. While it is unlikely that the Court's decisions in those cases will impact trial courts directly, the decisions may open a wider and long overdue discussion about how districts are drawn and how such decisions affect the administration of justice.

References

- Baker, J. (2013, April 19). Strife between speakers and chambers kills two key bills in Tennessee legislature. *Memphis Flyer*. Retrieved from <https://www.memphisflyer.com>.
- Blinder, A., and Wines, M. (2018, January 9). North Carolina is ordered to redraw its congressional map. *The New York Times*. Retrieved from <http://nytimes.com>.
- Blythe, A. (2017, June 5). US Supreme Court affirms NC legislative districts as racial gerrymanders. *The News and Observer*. Retrieved from <http://newsobserver.com>.
- Blythe, A. (2018, January 31). Judge reinstates primaries for NC Supreme Court and appeals court races. *The News and Observer*. Retrieved from <http://newsobserver.com>.
- Fain, T. (2017, October 5). Judicial redistricting clears House; GOP wants to cancel 2018 judicial primaries. WRAL-TV. Retrieved from WRAL.com.
- Greenblatt, A. (2016, September 20). Overworked and underfunded, public defenders see some light. Retrieved from <http://governing.com>.
- Humphrey, T. (2013, March 11). Ramsey judicial redistricting plan changes 8 of 31 current districts. *The Knoxville News-Sentinel*. Retrieved from <http://knoxblogs.com>.
- Humphrey, T. (2013, April 19). House kills judicial redistricting bill. *The Knoxville News-Sentinel*. Retrieved from <http://knoxblogs.com>.
- Jarvis, C., and Blythe, A. (2017, March 23). Veto override means voters will know judges' party affiliations. *The News and Observer*. Retrieved from <http://newsobserver.com>.
- Justice, B. (2013, March 10). City board lining up to oppose judicial redistricting. *The Tullahoma News*. Retrieved from <http://www.tullahomanews.com>.
- Leslie, Laura. (2017, September 30). Courts commission tells lawmakers to stay judicial redistricting. WRAL-TV. Retrieved from WRAL.com.
- North Carolina Administrative Office of the Courts. (2010). Summary of North Carolina trial court caseload. Retrieved from <http://digital.ncdcr.gov/cdm/ref/collection/p249901coll22/id/418906>
- Robertson, G. (2017, September 12). With legislative maps done, GOP looks at judicial districts. *US News and World Report*. Retrieved from <https://www.usnews.com>.
- Robertson, G. (2017, October 15). Veto override means no scheduled judicial primaries in 2018. *US News and World Report*. Retrieved from <https://www.usnews.com>.
- Webley, Alec. (2016). Judges are (not?) politicians: *Williams-Yulee v. The Florida Bar* and the constitutional law of redistricting of judicial election districts. *Journal of Legislation and Public Policy*, 19(3), 851-911.
- Wogan, J. (2017, June). Judicial redistricting: issue politicians don't want to discuss. *Governing*. Retrieved from <http://www.governing.com>.

CRISPR and Patent Law: Molecular Biology Is Not the Only Thing That Is Confusing!

Dr. Justin Burum
Sue Burum
Minnesota State University, Mankato

Mark Twain, in *A Connecticut Yankee in King Arthur's Court*, wrote “a country without a patent office and good patent laws was just a crab and couldn't travel anyway but sideways or backwards” (Ladas & Perry, 2014). The battle over patents for scientific techniques, such as Clustered Regularly Interspaced Short Palindromic Repeats (CRISPR) appears to be moving like Twain's proverbial crab, more sideways than forward, meaning that this country's approach may not be in keeping with good patent laws. Former Chief Judge Paul Michel of the Court of Appeals for the Federal Circuit called *Regents of the University of California et al v. The Broad Institute Inc. et al* “the US patent case to watch in 2018” (Lloyd, 2018). This case will have a profound effect on patent law, scientific research, and business' ability to commercially use scientific research. This paper will explain CRISPR and review patent law in an effort to broaden the discussion to people in social sciences, biology, and law. People from broad, diverse backgrounds are needed to collaborate on ways to handle CRISPR type issues in the future. This topic and the resolution of the dispute is important not only in an academic sense for those in social sciences, biology, and law, but also is expected to have a dramatic impact on business profitability. Understanding the complexities of biology, along with patent law, can help provide clarity as to how the law might have to be modified and how the law should be applied to genomic discoveries and techniques, and what qualifies as an invention worthy of patenting. The ultimate goal is to avoid stifling scientific innovation or using excessive amounts of taxpayer money to defend academic institution patents.

Introduction to Molecular Biology

Before CRISPR can be defined, it's important that general biological terms and main principles of molecular biology are understood. All life on earth, from archeobacteria and eubacteria (prokaryotes) to animals and plants (eukaryotes) consist of one or more cells. Within these cells are double stranded helix shaped molecules that carry a genetic code that allows the organism to develop, grow, and reproduce. This code, or information, is called deoxyribonucleic acids or DNA for short.

DNA consists of three parts: a phosphate group, a sugar molecule, and one of four nitrogenous bases [(adenine, thymine, guanine, or cytosine)]. These three parts together are referred to as nucleotides. An organism's entire sequence of nucleotides, in their specific order, are referred to as the organism's genome. All cells within an organism contain the same genome. Within our genome are certain sections of DNA called genes that code for proteins. Proteins are important in that they are molecules that perform certain biological functions within our cells so that the organism can stay alive and reproduce.

By increasing or decreasing the expression of certain genes, and therefore the amount of proteins within that cell, we can create cells that look different and have different functions despite having the same DNA. To do that, the cell makes a single stranded copy from the double stranded DNA, called a messenger RNA, through a process called transcription. Messenger RNA can then be read and converted into a protein through a process called translation. This entire process of creating messenger RNA from DNA and proteins from messenger RNA is referred to as the “central dogma” of molecular biology.

The final biological term that should be addressed is allele. An allele is an alternative form of a gene. As an example, let's examine human eye color. Eye color is

impacted by multiple human genes but for simplicity we will focus on one of the main genes, *OCA2*. *OCA2* has different alleles that impact their expression. If an individual has inherited alleles that result in low expression of the gene, and therefore low levels of a protein involved in producing and storing melanin, the individual will have blue eyes. If the individual has inherited alleles that result in high levels of gene expression, and therefore a lot of that particular protein, they will have brown eyes. In this particular example, individuals can have slight differences in the DNA sequence that impacts eye color but has no negative impact on eye vision.

Some alleles for genes can negatively impact the structure and function of a protein. For example, within red blood cells, people have a protein called hemoglobin that binds oxygen in the lungs and then delivers it to different cells in the body. While most humans carry two copies of the normal allele that creates perfectly functioning hemoglobin, some individuals within the population have inherited two copies of the gene with a single nucleotide difference (i.e., a different allele) that results in sickle shaped blood cells under low oxygen environments. This results in sickle cell disease.

As illustrated in the previous example, a change or difference in the gene resulting in a slightly different protein can have negative consequences on health. The ability to change a gene, by editing the genome, so that the organism has better alleles and therefore better proteins is a game-changer for scientists and can lead to tremendous improvements for society in a number of different fields besides health. CRISPR happens to currently be the best technique on the market for editing genomes.

What is CRISPR?

CRISPR's roots can be traced back to the last 1980s. In 1987, Yoshizumi Ishino, Hideo Shinagawa, Kozo Makino, Mitsuko Amemura, and Atsuo Nakata, all from Osaka University, Japan (Ishino et al., 1987) were analyzing the DNA sequence from *Escherichia coli* (*E. coli*) when they identified a series of small segments of repeating DNA interspaced by non-repetitive DNA (spacer sequences). The scientists concluded at the time that the sequence was not similar to other publicly available DNA sequences in prokaryotes and they were unable to determine its function (Ishino et al., 1987). However, during the 1990s, DNA sequencing technologies improved to the point that more prokaryote genomes were able to be sequenced and this same pattern of DNA was routinely discovered in other prokaryote species. In 2002, Ruud Jansen, Jan D. A. van Embden, Wim Gaastra, and Leo M. Schouls, all from Utrecht University, Netherlands, were the first to define the pattern of CRISPR which consisted of short repeating DNA segments separated by unique DNA sequences. In addition, they also found a gene near the CRISPR location which was eventually called "CRISPR-associated proteins," or *cas* for short, (Jansen et al., 2002). Between 2005 and 2011, different laboratories determined that the CRISPR spacer sequences were actually foreign viral DNA spliced into the bacterial genome. Between several laboratory groups, they determined that the CRISPR region and the *cas* proteins, as part of a CRISPR-*cas* system, was an immune mechanism to defend bacteria against viruses (Barrangou et al., 2007; Bolotin, Quinsquis, Sorokin, & Ehrlich, 2005; Deltcheva et al., 2011; Gameau et al., 2010; Hale, Kleppe, Terns, & Terns, 2008; Makarova, Grishin, Shabalina, Wolf, & Koonin, 2006). In short, when a virus attacks a bacterium, the bacterium finds and cuts the attacking virus's DNA using a *cas* protein and then stores that segment of cut DNA within the bacterium's own genome. When attacked by that same virus later on, they

can use the previously cut segment to help identify the virus genome to cut and kill the virus. The CRISPR sequence (the foreign viral DNA fragment) acts as a map to find the specific part of the viral genome, called a crRNA. The crRNA is also connected with another DNA sequence called a tracrRNA and together form a guide RNA. The guide RNA serves as a “homing beacon” for the cas protein. The guide RNA directs the cas protein to the correct site on the viral genome, activated by the tracrRNA segment of the guide RNA, and then, like a scissor, cuts both strands of the DNA.

In 2012, Jennifer Doudna, from the University of California, Berkeley, and Emmanuelle Charpentier, then from the University of Vienna (Berkley group) were the first team to figure out how the bacterial defense system could be modified and used as a “cut and paste” tool for editing genomes (Jinek et al., 2012). In the natural CRISPR-cas system, the tracrRNA have to come together as the “homing beacon” to cut the virus. In their modified system, the tracrRNA and crRNA are already together as one unit and the crRNA is a short sequence of DNA designed to cut a specific part of an organism’s genome (Jinek et al., 2012). Using a specific type of cas gene called Cas9, they demonstrated that the technique could be used to cut specific DNA at any particular point in an organism’s genome (Jinek et al., 2012). This could be exploited to make edits to the DNA. Since its discovery, scientists have quickly adapted the technology for different types of cells and for a variety of purposes including the first group led by Feng Zhange, from Broad Institute of MIT and Harvard, to edit mice and human cells (Cong et al., 2013). These adaptations also sparked the debate about who should own patents using CRISPR technology.

The Importance of CRISPR

While CRISPR is not the first genome editing tool created, to date it is currently the most cost effective and most efficient method to use (Ricroch, Clairand, & Harwood, 2017), and CRISPR has been quickly adapted for editing gene sequences within mice, humans, and plants (Cong et al., 2013; Li et al., 2013; Nekrasov, Staskawicz, Weigel, Jones, & Kamoun, 2013). CRISPR has many potential applications but, perhaps, the most lucrative application could come from its use to cure human genetic diseases by editing dysfunctional alleles. As mentioned earlier, sickle cell disease is the result of a single nucleotide difference between the disease allele and a normal allele for the hemoglobin protein. Perhaps embryos that have the sickle cell allele can be edited to create normal hemoglobin proteins so, when the babies are born, they never have sickle cell disease. Humans have already been injected with CRISPR to cure disease (Kaiser, 2017). Human trials using CRISPR technology have already been approved, thus, at the time of the current paper’s publication, human trials will have either started or will start soon (LePage, 2017; Reardon, 2016).

CRISPR could be used to improve crops by editing plants to have the best possible alleles for various traits such as crop yield or disease resistance (Ricroch et al., 2017). No longer would scientists have to resort to long breeding trials to understand which genes beneficially impact those traits. This would save agriculture breeders both time and money. The USDA has already stated that, as long as crops do not contain foreign DNA and the alleles can be naturally found within that species of plant, they will not regulate their use like traditional genetically modified organisms (GMOs) (Kwon, 2018; Waltz, 2016). This means these agriculture companies can develop these crops and not suffer the stigma and regulations associated with GMOs.

More controversially, but not outside the realm of possibility, CRISPR could be used for other applications such as de-extinction and designer babies. For example, CRISPR can be used to edit the genome of currently existing white rhino subpopulations to match the genome of extinct northern white rhino samples. In other words, CRISPR could be used to bring back extinct species or subpopulations. Scientists could possibly even edit elephant genomic DNA to recreate and reintroduce the woolly mammoth into the environment (i.e., an Ice Age version of the movie Jurassic Park) (Wray, 2017). CRISPR could also be used to create designer children (i.e., children genetically engineered *in vitro*) by editing the genome for reasons other than to cure disease to give the offspring “desirable traits”. Certainly, de-extinction and designer babies are ethically controversial, but the CRISPR technology could potentially make this a reality. In short, CRISPR has the potential to be a game-changer and enormously lucrative. Therefore, it is understandable that scientists, who have created the CRISPR-Cas system for different types of cells and applications, wish to claim intellectual credit and potential royalties from licensing agreements.

Applicable Law

Statutory Development of Patent Law

The history of patent law goes back to medieval times when rulers, for a fee, would grant an exclusive right to use inventions. The granting of a monopoly/patent to exclusively use an invention was done on a case-by-case basis at the whim of a ruler. It was a convenient way to raise money (Ladas & Perry, 2014). Because of abuses, the Statute of Monopolies was passed to limit the power of the sovereign to grant monopolies (English Statute, 1624). The statute said that inventions had to be new to be granted a monopoly to its use. The granting of a patent could not be harmful to the state, for the sole purpose of raising prices on commodities. Also, the exclusive use would only be for a term of 14 years. This period of time equaled two training periods for craft apprentices.

In Colonial America, there were no laws that provided for patents. Inventors had to appeal to colonial governments for a grant to exclusively use their invention. The earliest grant was from the state of Massachusetts in 1641 (Cambridge, 1942). The passage of state-specific patent laws did not happen until 1784 in South Carolina. Until this point, both in the colonies of early America and under the Articles of Confederation, the granting of patents had to be done on an individual, case-by-case basis. Early patent laws followed the Statute of Monopolies by allowing exclusive use of inventions for 14 years. American patents were also supposed to be for the advantage of society as a whole, rather than the main emphasis being on the property rights of the inventor.

In 1787, Article I, Section 8, of the Constitution gave Congress the power to make laws pertaining to patents. The Constitution was drafted in the U.S. during an industrial revolution in England and a pro-patent climate in both countries (Ladas & Perry, 2014). The first federal regulation of patents occurred in the Patent Act of 1790 (Patent Act, 1790). The Act gave the power to grant patents to the Secretary of State, the Secretary of War, and the Attorney General. A patent was granted for 14 years and required two of the three government officials to agree to issue the patent. To get a patent, something had to be important and useful. The first patent was issued on July 31, 1790, to Samuel Hopkins for a new apparatus and process for the making of Pot and Pearl Ashes (USPTO, 2001). George Washington signed the patent. The act was

repealed and replaced in 1793. Besides being important and useful, the 1793 change said the subject of a patent also had to be new. The 1793 replacement was amended in 1832 and allowed resident aliens, who declared an intention to become a citizen, to obtain a patent. A major review was undertaken in 1836 in response to complaints about the granting of patents for things that were not novel (Ladas & Parry, 2014). In the application for a patent, the inventor had to distinguish his invention from prior inventions. There was also a procedure to resolve conflicts between competing applications. The Act also allowed for the extension of a patent for 7 years after the original 14-year period. The act established an official patent office, which was chaired by a Commissioner for Patents, rather than the Secretary of State. This allowed for more efficient granting of patents and freed the original three government officials from the duties of granting patents.

Patents were viewed unfavorably during periods of depressions, such as the 1890 and 1932 depressions, and again in the depressed economic conditions of the 1970s. During these periods, patents fell out of favor (Ladas & Perry, 2014). The Sherman Antitrust Act in 1890 was passed due to a concern over the power of big business (Sherman, 1890). The Act tried to prohibit agreements in the restraint of trade, such as through monopolies and product control. Patents, during challenging economic conditions, were viewed as a way to promote monopolies. Courts during these periods tended to invalidate patents. In 1980, Congress passed the Patent and Trademark Law Amendment Act, also known as the Bayh-Dole Act (Bayh-Dole Act, 1980). This act grew out of the recession of the 1970s. Before the Act, intellectual property that was created or discovered using federal funds belonged to the federal government. The Act allowed universities, small businesses, or non-profit institutions to acquire ownership of inventions from the inventor. Before the Act, the government had acquired 28,000 patents. This allowed patents to be put to use and developed into industries in the private sector.

In 1952, during a period when patents were valued and better protected, Congress passed the Patent Act of 1952 (Patent Act, 1952). In the Act, an inventor had to show that the invention was not only new and useful, but also non-obvious to get a patent. Congress created the US Patent and Trademark Office (USPTO) in 1975 to delegate power to the USPTO to enact laws relating to patents. Now patents could be issued for 20 years. In the early 1980s, with the election of President Ronald Reagan, and the country's return to a pro-business focus, emphasis against anti-trust enforcement again went out of favor. In 1982, the Court of Appeals for the Federal Circuit took the place of the Court of Customs and Patent Appeals. The court was pro-patent and provided more protections to the holders of patents. In 2011, the Leahy-Smith American Invents Act changed the patent system from granting patents to those who first invented something to granting patents to the first inventor to file for a patent (Leahy-Smith, 2011). The Act went into effect March 16, 2013.

Court Development of Biological Patent Law

Patent law, in Title 35, Section 101, says that anyone who "invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent" (Inventions Patentable, 2018). The US Supreme Court has mostly interpreted this statute broadly to encourage innovation. However, courts have set limits on biological discoveries of "laws of nature,

natural phenomena, and abstract ideas” (Ku, 2017). Laws of nature also include products of nature, although the courts have had difficulty defining what is considered a “product of nature”. The Supreme Court has tied “natural” to a scientific concept rather than creating a legal term and articulating factors to help courts decide if something is natural. Using scientific concepts has not resolved the tension concerning what is natural. Some claim the concept can be too restrictive because the phenomena of nature are the basic tools of scientific research and technological work. By interpreting a scientific definition of “natural” too literally, nothing would be able to be patented in the biological sciences. Similarly, interpreting the concept too broadly, everything could be patented (Ku, 2017).

In *Funk Bros. Steel Co. v. Kalo Inoculant Co*, 1948, the US Supreme Court had to decide where to draw the line between what was patentable and what was a law of nature deemed not patentable (Funk v. Kalo, 1948). The facts in this case involved the discovery of a process to better help plants take nitrogen from the atmosphere. In the natural environment, some plants are not able to take nitrogen easily from the atmosphere. For example, legumes, like beans, are a type of plant that do not take up nitrogen easily, and have bacteria in the roots that help do this for the plant. Different types of bacteria were needed since no one type of bacteria worked with all plant species. Some bacteria were even incompatible with other types of plants. Scientists discovered a group of bacteria that could work together and be used for different types plants. *Kalo* was the first to package and sell this mixture. Later on, Funk used *Kalo*’s idea and made and sold the same mixture of bacteria. *Kalo* sued for patent infringement. Justice Douglas, writing for the majority, concluded that the bacteria were “the work of nature” and could not be patented (Funk v. Kalo, 1948). The US Supreme Court held that “a facially trivial implementation of a natural principle or phenomenon of nature is not eligible for a patent” (Funk v. Kalo, 1948). In other words, it was ruled that selecting appropriate bacteria and packaging them together was not enough to be patentable.

The Supreme Court revisited this case in *Diamond v. Chakrabarty* (Diamond, 1980). This case considered whether GMOs could be patented. Ananda Chakrabarty genetically modified a bacterium to break down oil and wanted to patent that organism. Historically, no living organism had been patented. Under the Patent Act of 1952, the newly created bacterium was considered to be manufactured and did not exist in nature. Thus, the Supreme Court said it could receive a patent. The USPTO interpreted this case broadly, and this encouraged research in the medical and biotech industries. Without this ruling, the CRISPR-Cas9 research would not be patentable.

In the 2012 *Mayo v. Prometheus*, the Supreme Court unanimously held that a patent request for a personalized method to administer a drug to a patient could not receive a patent (Mayo, 2012). The correlation between naturally-produced metabolite levels in the body and the dosing range for the drug was considered a law of nature.

In 2013, the Supreme Court further clarified what living things could be patented. In *Ass’n of Molecular Pathology v. Myriad Genetics, Inc.*, the Supreme Court affirmed a lower court’s decision that a company, searching for a gene for breast cancer, could not patent an isolated DNA sequence because DNA sequences exist “naturally” in nature (Association, 2013). However, scientists that take single stranded RNA and remake it into double stranded DNA might be able to get a patent because double stranded RNA

does not exist in nature. Justice Thomas, in writing the majority opinion of the Court, stated, “If the company had created an innovative method for manipulating genes...it could possibly have sought a method patent” (Association, 2013). The process used by *Myraid* was well understood and widely used. Any scientist looking for a breast cancer gene would have used the same approach.

In *In Re Roslin Inst.*, the US Court of Appeals for the Federal Circuit, held that “Dolly the Sheep” could not receive a patent (In Re Roslin, 2014). The sheep was the first mammal cloned from an adult somatic cell. The method for doing this was patented, and was not an issue in the case. Dolly could not be patented because, using the *Myrid* decision, no genetic information of the clone was created or altered.

In the case *Alice Corp. v. CLS Bank Int.*, concerning a computer-implemented electronic escrow service, the Supreme Court created a two-part test for what can be patented as an exception if the subject of the patent does not technically fit what is allowed under current patent laws (Alice Corp., 2014). The United States Code says that anyone who “invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent subject to the conditions and requirements of this title. (Alice Corp, 2014). Thus, only inventions that fall within the categories of process, machine, manufacture, or composition of matter are eligible for patents. Laws of nature, natural phenomena, and abstract ideas are not patent eligible. They are “manifestations of nature which are free to all men and reserved to none” (Alice Corp, 2014).

The Supreme Court, in *Alice*, articulated a two-part test for distinguishing patent-ineligible concept claims from those that are still patent-ineligible, but now judicially-created exceptions. Inventions that are derived from a product of nature are not patentable, whereas those that are derived from human intervention can fall within a judicial exception. Under *Alice*, the first part of the test is to decide if something is patentable under the requirements of the Patent Act. To get a Patent under the Patent Act, something has to be an invention or discovery of a new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement. In *Alice*, a software implementation of an escrow arrangement on a computer, was not one of the listed items in the Patent Act. Escrow is not a patentable invention. The court considered it an abstract idea. An escrow is an account that is set up to pay for future expenses. In the past, it was done on a physical ledger. Its implementation on a computer to manage future payments, does not raise it to a patentable level. It was like the personalized drug method in *Mayo*. It was still a patent-ineligible abstract idea despite being done through a computer. CRISPR, on the other hand, would pass the first part of the test in *Alice*. Nature-inspired products like CRISPR must possess different characteristics from those found in nature. Different characteristics could include things like different biological functions or characteristics, different chemical or physical properties, different phenotype, or different structure and form. If the nature based product has different characteristics, it is patent eligible. The CRISPR-Cas technique is patentable because it not only modified the system to have the tracrRNA and crRNA together, but is also able to target non-viral DNA to cut and edit an organisms genomic sequence (Ku, 2017). It is a “new and useful process” inspired but not copied from nature and therefore, it comes under the Patent Act and is not an abstract idea.

If a patent request does not meet the first part of the Alice test, then it may still be able to receive a judicial exception if it passes step two of the *Alice* test (Ku, 2017). The second step determines if there is any “additional element” that transforms the claim into something that is a potentially patent-eligible implementation of the idea. There needs to be an inventive concept. In *Alice*, there was no inventive concept like there is with the gene manipulating concept of CRISPR-Cas. It was the ordinary and customary use of the computer requiring “generic computer implementation.” In the case of CRISPR-Cas, there is no reason to go to the second part of the Alice test since it would be patentable under part one. CRISPR-Cas is patentable under the second step of *Alice* because the additional element is the transformation of a bacterial immune system to destroy viruses into a genome editing tool for multiple species. CRISPR-Cas was no longer just an abstract idea but a new method to edit genomes that does not exist in nature.

In 2011, in *Stanford University v. Roche Molecular Systems, Inc.*, the Supreme Court settled the issue of who owns the rights to inventions after the Bayh-Dole Act of 1980 (Stanford University, 2011). The university thought they had the rights to an employee’s invention/research under their employment agreement. The employee assigned rights to the invention/research to the Roach Company as part of their employment. The Supreme Court concluded that the Bayh-Dole Act did not change the old rule that the title to inventions/research belonged to the inventor, even if the person worked at a federally funded lab. Stanford did not negotiate a good agreement with the researcher to have patents pass to the university (Stanford University, 2011). Now institutions have created better contracts with their employees to avoid this situation. Under employment contracts, an inventor’s research usually belongs to the employers’ school since they are using the institutions research facilities.

The Problem

In 2014, two groups of inventors filed applications for patents. Jennifer Doudna, and Emmanuelle Charpentier (Berkeley group) were the first team to discover the biology that underlies CRISPR. In May 2014, they filed for a patent that described the use of CRISPR-Cas9 gene editing only in terms of prokaryotes. However, their patent request was broader. They asked for a patent “in any setting, including eukaryotic cells and other cell types.” They did not demonstrate editing in eukaryotic cells (Tuttle, 2016). In December 2014, Feng Zhang, of the Broad Institute of Harvard and the Massachusetts Institute of Technology (Broad group), filed for patents for the use of CRISPR in eukaryotic cells. These are cells found in organisms such as plants and animals. These patents are potentially the most lucrative application of the gene editing technique because it covers applications of the technique to treat human genetic disease and agriculture. Although the Berkeley group filed first, the Broad group opted for an expedited review and got its patents approved first (Zang, 2016).

Berkeley then initiated an interference proceeding before the patent office’s Patent Trial and Appeal Board (PTAB). They argued that Broad’s patents overlapped with their still pending CRISPR patent. Once the Berkeley technique was demonstrated in 2012, they argued that it was obvious the technique could be applied to human and plant cells. The Berkeley group argued that if you can cut and edit bacteria DNA, being no difference between prokaryotic and eukaryotic DNA base-pairs, it should work in both systems. They stated that their patent covered all uses of CRISPR, including its

use for humans. Since the technique's application to eukaryotic cells was "obvious," Broad could not patent that application (Pollack, 2017). The Broad group argued that if it was obvious, why then didn't the Berkeley group demonstrate its use in eukaryotic cells. In February, 2017, the PTAB concluded that the granting of the Broad's patents were separate, did not overlap, and did not interfere with Berkeley's still pending patent. They also concluded that the Berkeley patent did not specifically cover eukaryotic cells (Pollack, 2017). Berkeley, while inventing CRISPR, only got the technique to work in bacteria or free-floating DNA. The Broad group argued that Berkeley's work did not automatically mean that the technique would work in more complex environments. Berkeley countered that they were the first to engineer CRISPR-Cas9 for use in all environments, non-cellular as well as plants and animals. The Broad group argued that it was not intuitive and there was "no reasonable expectation of success" that CRISPR would extend beyond bacteria and it took extensive work to apply the technique to eukaryotic cells (Akst, 2016). The PTAB did offer Berkeley some hope on their patent. In their opinion, the judges wrote, an "earlier disclosure of a genus does not necessarily prevent patenting a species member of a genus" (Pollack, 2017). This means that maybe the Berkeley group could get a patent for the CRISPR technique in any organism, while the Broad group can get a patent specifically for use on humans and animals.

In April 2017, Berkeley appealed PTAB's decision to the US Court of Appeals for the Federal Circuit (Appellant Brief, 2017). They are arguing that the patent board made "fundamental errors of law" that could result in the overturning of the patent board's decision. They reiterated their claim that applying CRISPR to eukaryotic cells was so obvious that six different labs did it in the same time frame as Broad. Patent examiners, before Broad's patent applications, even rejected similar patent application from Sigma-Aldrich and ToolGen because the examiners concluded the requested patents were obvious and not novel in light of Berkeley's disclosed work (Appellant Brief, 2017). The PTAB ignored this and concluded it was not relevant. This was a fundamental error. The Broad group, in their filings, argued that Berkeley failed to provide new evidence that would undermine PTAB's decision (Appellee Brief, 2017). Broad said in a statement that "the [Berkeley] brief hinges on its argument that, although [Berkeley's] work simply involved characterizing a purified enzyme in a test tube, it rendered obvious that genome editing could be made to work in living mammalian cells" (Akst, 2017).

Oral arguments were held April 30, 2018. If the Federal Circuit Court decision is going for the Broad group, the decision should come in May of 2018. If the court is deciding for the Berkeley group, it will likely be 60-90 day before the decision is handed down. Courts generally defer to the patent office, so Berkeley has an uphill battle to prevail. If Berkeley does not prevail, there is still the question of whether Berkeley will get its patent. Jennifer Doudna, in a phone interview with reporters, said "They have a patent on green tennis balls: we will have a patent on all tennis balls" (Rogers & Niiler, 2017). This follows the PTAB's opinion where Berkeley could get a patent for all cells (i.e., all tennis balls), while Broad has patents for a particular eukaryotic species (i.e., green tennis balls). If this is the case, then companies wanting to use CRISPR in areas like medicine and agriculture will need a license from both the Berkeley group, as the inventor of the technique, and the Broad group, as the ones who applied the technique to eukaryotic cells (Rogers & Niiler, 2017). The Broad group also argued to the court that, if both teams will have patents, then Berkeley is not harmed by the Broad's

patents. Berkeley will still collect fees from their patents. Thus, the court does not need to invalidate Broad's patents (Appellee Brief, 2017). If Berkeley loses, it will be in the same situation it is in now. Berkeley could try to appeal to the US Supreme Court. However, the Court may not accept the case as the issues more involves questions of fact. It does not appear to involve compelling legal doctrine that causes other cases to get accepted by the Court. More likely there will be some cross-licensing scenario or settlement by the two sides. The worst-case scenario for Berkeley would be that they only receive a patent for the use of CRISPR with bacteria. This "winner take all" scenario is unlikely as the Broad group would have to prove that they actually invented the technique.

Both sides are also fighting for patents to CRISPR around the world. Other teams from other countries are also battling for overseas patents, especially in China and European countries (Cohen, 2017). The European Patent Office follows the 2011 Leahy-Smith Americans Invents Act in the United States. They grant patents to the first inventor to file for a patent. However, they have a technical requirement that requires all inventors to be listed in applications for patents (Ledford, 2017). Broad's patent applications in the United States included Luciano Marraffini, of The Rockefeller University in New York City, as an inventor. A disagreement between Rockefeller and the Broad group over Marraffini's role in CRISPR inventions resulted in Broad leaving him off the list of inventors in nine out of ten European patent office applications. Neither Marraffini nor Rockefeller assigned their rights to the Broad group (Servick, 2018). This has already resulted in some of Broad's applications being rejected. This rejection could result in the Broad group not being the first to file overseas. Their original application could be dismissed because they failed to include an inventor. If they have to refile with all inventors listed on the application, then their filing date would be after the Berkeley group. Berkeley, or even another filer, could be the winner of patents in Europe (Life Sciences, 2017). The Chinese Intellectual Property Office granted the CRISPR patent to the Berkeley group in both cellular and non-cellular settings in prokaryotes and eukaryotes, including humans (Buhr, 2017).

Lessons

Why did Berkeley lose at the PTAB? One thing the judges cited was Doudna's own statements. Doudna admitted to reporters, "We weren't sure if CRISPR-Cas9 would work in eukaryotes—plant and animal cells" (Begley, 2017). She admitted that her team experienced "many frustrations" getting CRISPR to work on human cells (Begley, 2017). She cautioned those interested in applying the technique to human cells that genetic "techniques for making these modifications in animals and humans have been a huge bottleneck in both research and the development of human therapeutics" (Begley, 2017). This caused the patent judges to conclude with Broad that it was uncertain that the technique would work in eukaryotic cells and the ability to apply the technique was not intuitive (Brown, 2017). This sends a scary message to scientists (Begley, 2017). Scientists are taught to be honest about uncertainties in their research. If scientists now see this honesty being used against them and their research, there will be a temptation to "lawyer up" and not say anything that could be used to undermine a patent request.

Fighting all these appeals is very expensive. It was estimated, in the summer of 2016, that legal fees for both sides passed \$15 million (Brown, 2017). Unfortunately, legal fees have only continued to rise since then. Schools that rely on taxpayer dollars

as well as tuition to operate should not engage in these cases and appeals. Also, scientific research is often partially funded by grants. While some grants can come from private businesses, grants often come from taxpayer dollars. Are taxpayer dollars now being used to fight for patents? Patent law needs to change so that parties, especially those that do not have deep pockets of private money, are pressured to use mediation or arbitration to settle patent claims in a more cost-effective fashion. This case will ultimately result in a settlement. Most people see the solution to require cross-licensing. If both sides arrived at this conclusion earlier, both sides would have saved money that could be better used for additional research. People should not be encouraged to fight for winner-take-all solutions.

Licensing agreements should not be so expensive that only a few can purchase and use them. Scientific discoveries often have a short period of time when they are unique. Zhang, in 2015, discovered CRISPR-Cpf1, a new version of CRISPR-Cas9 as it uses a simpler and more efficient enzyme (Begley, 2017). As Cpf is a protein found in *Prevotella* and *Franciscella* bacteria as part of their CRISPR-Cas system that can cleave DNA, he was able to receive patents for this discovery (Brown, 2017). If licensing agreements are too costly, others will just modify CRISPR or even come up with a completely different technique. Chinese researchers published a paper on a new editing system from *Natronobacterium gregoryi* Argonaute (NgAgo) that can be used to edit mammalian DNA. This could make both Berkeley's and Broad's patents much less valuable.

Patent battles can slow scientific research that makes use of a technique like CRISPR. What is the place of patents in scientific research? Does the patent process help or hurt science in the end? Legal rights can get confused with scientific credit (Yirka, 2017). Patents are supposed to encourage and recognize scientific discovery by rewarding universities and companies for their accomplishments. As inventors, they can use their discoveries for profit and they can limit others from using their discoveries without purchasing a license from them first. The profits can allow them to do even more research. This is not always the case. In 2000, in a survey of more than 1200 US geneticists, half of those scientists reported that they felt patents related to genetic testing had limited their research (Brown, 2017). Scientists have argued, instead of patents for a scientific process, a more open and collaborative system should be used to share research and encourage development of promising techniques. The old wink-and-nod custom of not enforcing patents for academic research is not enough to protect important discoveries. Medical advancements run the risk of being slowed if every case develops into legal challenges and appeals as developed in the CRISPR case (Ledford, 2016). Both parties have licensed their technology to several firms. That research is held up until the legal fights are resolved.

Conclusion

Patents should be drawn narrowly to avoid ambiguously implied claims, and leave room to reward others for advancing knowledge in areas previously left unexplored (Genomeweb, 2017). This guideline is consistent with, both, the reason we have patents in the first place, and with the revocations of patents by courts when big companies seemed to be stifling economic growth in times of recession. An example of a narrow patent in the CRISPR case would be to give researchers a patent to cover just one part of CRISPR, such as giving the Berkeley group a patent to CRISPR's use in

non-eukaryotes such as bacteria. Broad group's patent should also be narrow and only cover what was actually demonstrated to work. A broad patent to the entire technique and all possible applications may not encourage development of the technique and research into newer applications. Patents need to be issued for the public benefit as well as the benefit of the inventor or organization that holds the rights to the discovery. The Bayh-Dole Act was passed as a way to encourage commercialization of federally funded research. The CRISPR patent battles have demonstrated that patent fights waste time and money as different parties try to duplicate each other's work and then spend excessive amounts of money trying to win patents and challenge other's patents. Moving from the first to invent to the first to file was an attempt to lessen CRISPR type challenges. Inventors will be able to get acclaim as the first to invent something. A patent is important for the commercial development of an invention. A person does not need a patent to be given scientific credit as the inventor. Separating these two concepts may help, but it will not eliminate battles. Battles can be expected especially when a discovery is especially likely to generate great profit. If broader patents are considered to be a better approach, then maybe some statutory changes are needed to encourage different battling sides to settle and share patent revenue. If Berkeley holds the patent "to all tennis balls" and Broad holds the patent to just green tennis balls, then mediation or arbitration would be a better approach to simply consider how each side should share profits, if any. This better serves the public, wastes less resources and time, and allows additional research and development to move forward. Regardless, *Regents of the University of California et al v. The Broad Institute Inc. et al* in 2018 will be a very important case to watch. No matter how this case is resolved, maybe further legislation should also be considered to clarify government-use rights for federally funded research and possibly extend them to grantees and contractors. Inventors and the public have needs. These needs must be balanced in order to advance discoveries. Fights like the CRISPR battle keep us moving sideways, like Twain's crab, rather than moving forward.

References

- Akst, J. (2017, July 26). UC Berkeley: Patent office "ignored key evidence." *The Scientist*. Retrieved from <https://www.the-scientist.com/?articles.view/articleNo/49969/title/UC-Berkeley--Patent-Office--Ignored-Key-Evidence/>
- Akst 2, J. (2016, December 6). Arguments heard in CRISPR patent battle. *The Scientist*. Retrieved from: <https://www.the-scientist.com/?articles.view/articleNo/47675/title/Arguments-Heard-in-CRISPR-Patent-Battle/>
- Alice Corp. v. CLS Bank Int. (2014, June 19). 134 S.Ct. 2347. *Slip Opinion*. Retrieved from https://www.supremecourt.gov/opinions/13pdf/13-298_7lh8.pdf
- Appellant Brief, (2017, November 22). Case: 17-1907, Document 31. *Ersngenomics*. Retrieved from [http://www.ersngenomics.com/2017-11-22%20UCB%20Brief%20\(Public\).pdf](http://www.ersngenomics.com/2017-11-22%20UCB%20Brief%20(Public).pdf)
- Appellee Brief, (2017, October 25). Case: 17-1907, Document: 28. *Broad Institute*. Retrieved from <https://www.broadinstitute.org/files/news/pdfs/25102017-BriefForAppellees.pdf>
- Association of Molecular Pathology v. Myriad Genetics, Inc., (2013, January). 133 S.Ct. 2107. *Medicinal Genomics*. Retrieved from

- https://www.medicinalgenomics.com/wp-content/uploads/2013/12/AMP_vs_Myriad_2012-0398.mer_ami_.pdf
- Barrangou, R., Fremaux, C., Deveau, H., Richards, M., Boyaval, P., Moineau, S., ... & Horvath, P. (2007). CRISPR provides acquired resistance against viruses in prokaryotes. *Science*, 315(5819), 1709-1712.
- Bayh-Dole Act, (1980, December 12). Pub. L. 96-517. *The Catholic University of America*. Retrieved from: <http://counsel.cua.edu/fedlaw/bayh.cfm>
- Begley, S., (2017, February 16). 6 takeaways from the CRISPR patent decision. *Scientific American*. Retrieved from <https://www.scientificamerican.com/article/6-takeaways-from-the-Crispr-patent-decision/>
- Bolotin A., Quinsquis B., Sorokin A., & Ehrlich, S.D. (2005). Clustered regularly interspaced short palindromic repeats (CRISPRs) have spacers of extrachromosomal origin. *Microbiology* 151(8): 2551-2561.
- Brown, K., (2017, January 9). Why the patent battle over CRISPR matters (and why it doesn't). *Gizmodo*. Retrieved from <https://gizmodo.com/will-the-battle-over-the-biotech-discovery-of-the-centu-1790981150>
- Buhr, S., (2017, June 19). China sides with Emmanuelle Charpentier and Jennifer Doudna in CRISPR patent war. *Techcrunch*. Retrieved from <https://techcrunch.com/2017/06/19/china-sides-with-emmanulle-charpentier-and-jennifer-doudna-in-crispr-patent-war/>
- Cambridge Public Library, (1942, September 26). Salt making, first patent. *Cambridge Sentinel*, Vol. XXXVII, No. 39. Retrieved from <https://cambridge.dlconsulting.com/cgi-bin/cambridge?a=d&d=Sentinel19420926-01.2.46>
- Cohen, J., (2017, August 4). CRISPR patent battle in Europe takes a 'wild' twist with surprising player. *Science*. Retrieved from <http://www.sciencemag.org/news/2017/08/crispr-patent-battle-europe-takes-wild-twist-surprising-player>
- Cong, L., Ran, F. A., Cox, D., Lin, S., Barretto, R., Habib, N., ... Zhang, F. (2013). Multiplex genome engineering using CRISPR/Cas systems. *Science*, 339(6121), 819–823. doi:10.1126/science.1231143
- Deltcheva, E., Chylinski, K., Sharma, C. M., Gonzales, K., Chao, Y., Pirzada, Z. A., ... Charpentier, E. (2011). CRISPR RNA maturation by trans-encoded small RNA and host factor RNase III. *Nature*, 471(7340), 602–607. doi:10.1038/nature09886
- Diamond v. Chakrabarty, (1980, June 16). 447 U.S. 303. *Justia*. Retrieved from <https://supreme.justia.com/cases/federal/us/447/303/case.html>
- English Statute of Monopolies of 1623, (1964, May 29). 21 Jac. 1, c. 3. Retrieved from https://www.ipmall.info/sites/default/files/hosted_resources/lipa/patents/English_Statute1623.pdf
- Funk Bros. Steel Co. v. Kalo Inoculant Co, (1948, February 16). 333 U.S. 127. *Justia*. Retrieved from <https://supreme.justia.com/cases/federal/us/333/127/case.html>
- Garneau, J. E., Dupuis, M.-É., Villion, M., Romero, D. A., Barrangou, R., Boyaval, P., ... Moineau, S. (2010). The CRISPR/Cas bacterial immune system cleaves bacteriophage and plasmid DNA. *Nature*, 468(7320), 67–71. doi:10.1038/nature09523
- Genomeweb, (2017, November 16). CRISPR patents must be 'reined in,' experts say. *Genomeweb*. Retrieved from <https://www.genomeweb.com/gene-silencinggene-editing/crispr-patents-must-be-reined-experts-say#.WsGVd2aZnq0>

- Hale, C., Kleppe, K., Terns, R. M., & Terns, M. P. (2008). Prokaryotic silencing (psi)RNAs in *Pyrococcus furiosus*. *RNA*, 14(12), 2572–2579. doi:10.1261/rna.1246808
- In Re Roslin Inst., (2014, May 8). 750 F.3d 1333 (Fed. Cir. 2014). *FindLaw*. Retrieved from <http://caselaw.findlaw.com/us-federal-circuit/1665823.html>
- Inventions Patentable, (2018). 35 U.S.C. Section 101. Cornell Law School. Retrieved from <https://www.law.cornell.edu/uscode/text/35/101>
- Ishino, Y., Shinagawa, H., Makino, K., Amemura, M., & Nakata, A. (1987). Nucleotide sequence of the iap gene, responsible for alkaline phosphatase isozyme conversion in *Escherichia coli*, and identification of the gene product. *Journal of Bacteriology*, 169(12), 5429–5433. doi:10.1128/jb.169.12.5429-5433.1987
- Jansen, R., van Embden, J. D. A., Gaastra, W., & Schouls, L. M. (2002). Identification of genes that are associated with DNA repeats in prokaryotes. *Molecular Microbiology*, 43(6), 1565–1575. doi:10.1046/j.1365-2958.2002.02839.x
- Jinek, M., Chylinski, K., Fonfara, I., Hauer, M., Doudna, J. A., & Charpentier, E. (2012). A programmable dual-RNA-guided DNA endonuclease in adaptive bacterial immunity. *Science*, 337(6096), 816–821. doi:10.1126/science.1225829
- Kaiser, J., (2017, November 15). A human has been injected with gene-editing tools to cure his disabling disease. Here's what you need to know. *Science*. Retrieved from <http://www.sciencemag.org/news/2017/11/human-has-been-injected-gene-editing-tools-cure-his-disabling-disease-here-s-what-you>
- Ku, D. (2017, April). Article: The patentability of the CRISPR-CAS9 genome editing tool. *Chicago-Kent Journal of Intellectual Property*. 16 Chi.-Kent J. Intell. Prop., 408. Retrieved from <https://scholarship.kentlaw.iit.edu/ckjip/vol16/iss2/8>
- Kwon, D. (2018). USDA will not regulate CRISPR-edited crops. *The Scientist*. Retrieved from <https://www.the-scientist.com/?articles.view/articleNo/52209/title/USDA-Will-Not-Regulate-CRISPR-Edited-Crops/>
- Ladas & Parry, (2014, May 7). A brief history of the patent law of the United States. *Ladas & Perry Education Center*. Retrieved from <https://ladas.com/education-center/a-brief-history-of-the-patent-law-of-the-united-states-2/>
- Leahy-Smith America Invents Act, (2011, September 16). Pub. L. 112-29. *Bitlaw*. Retrieved from <https://www.bitlaw.com/source/America-Invents-Act/index.html>
- Ledford, H., (2017, October 26). Bitter CRISPR patent war intensifies. *Nature*. Retrieved from <https://www.nature.com/news/bitter-crispr-patent-war-intensifies-1.22892>
- Ledford, H., (2016, January 12). Bitter fight over CRISPR patent heats up. *Nature*. Retrieved from <https://www.nature.com/news/bitter-fight-over-crispr-patent-heats-up-1.17961>
- LePage, M. (2017, March 20). Boom in human gene editing as 20 CRISPR trials gear up. *New Scientist*. Retrieved from <https://www.newscientist.com/article/2133095-boom-in-human-gene-editing-as-20-crispr-trials-gear-up/>
- Li, J.-F., Norville, J. E., Aach, J., McCormack, M., Zhang, D., Bush, J., ... Sheen, J. (2013). Multiplex and homologous recombination-mediated genome editing in *Arabidopsis* and *Nicotiana benthamiana* using guide RNA and Cas9. *Nature Biotechnology*, 31(8), 688–691. doi:10.1038/nbt.2654

- Life Sciences, (2017, November 30). CRISPR in Europe: The patent landscape for 2018. *Life Sciences Intellectual Property Review*. Retrieved from <https://www.lifesciencesipreview.com/news/crispr-in-europe-the-patent-landscape-for-2018-2595>
- Lloyd, R., (2018, January 8). Former chief judge of the CAFC picks his US patent cases to watch in 2018. *Lexology*. Retrieved from <https://www.lexology.com/library/detail.aspx?g=a50d9b54-26b0-4cdf-bcf9-544d99556631>
- Makarova, K.S., Grishin, N.V., Shabalina, S.A., Wolf, Y.I., & Koonin, E.V. (2006). A putative RNA-interference-based immune system in prokaryotes: Computational analysis of the predicted enzymatic machinery, functional analogies with eukaryotic RNAi, and hypothetical mechanisms of action. *Biology Direct* 1(7). 1-26.
- Mayo v. Prometheus, (2012, March 20). 132 S. Ct. 1289. *Slip Opinion*. Retrieved from <https://www.supremecourt.gov/opinions/11pdf/10-1150.pdf>
- Nekrasov, V., Staskawicz, B., Weigel, D., Jones, J. D. G., & Kamoun, S. (2013). Targeted mutagenesis in the model plant *Nicotiana benthamiana* using Cas9 RNA-guided endonuclease. *Nature Biotechnology*, 31(8), 691–693. doi:10.1038/nbt.2655
- Patent Act of 1790, (1790, April 10). Ch. 7, Stat. 109-112. Retrieved from http://www.ipmall.info/sites/default/files/hosted_resources/lipa/patents/Patent_Act_of_1790.pdf
- Patent Act of 1952, (1952, July 19). *Government Publishing Office*. Retrieved from <https://www.gpo.gov/fdsys/pkg/USCODE-2011-title35/pdf/USCODE-2011-title35.pdf>
- Pollack, A., (2017, February 15). Harvard and M.I.T. scientists win gene-editing patent fight. *The New York Times*. Retrieved from <https://www.nytimes.com/2017/02/15/science/broad-institute-harvard-mit-gene-editing-patent.html>
- Reardon, S. (2016). First CRISPR clinical trial gets green light from US panel. *Nature News*. doi:10.1038/nature.2016.20137. Retrieved from <https://www.nature.com/news/first-crispr-clinical-trial-gets-green-light-from-us-panel-1.20137>
- Ricroch, A., Clairand, P., & Harwood, W. (2017). Use of CRISPR systems in plant genome editing: Toward new opportunities in agriculture. *Emerging Topics in Life Sciences*, 1(2), 169–182. doi:10.1042/etls20170085
- Rogers, A. & Niiler, E., (2017, February 2). A patent decision on CRISPR gene editing favors MIT. *Wired*. Retrieved from <https://www.wired.com/2017/02/patent-decision-crispr-gene-editing-favors-mit/>
- Sherman Act, (1890, July 2). 26 Stat. 209, 15 U.S.C. Sect. 1-7. Retrieved from: http://www.stern.nyu.edu/networks/ShermanClaytonFTC_Acts.pdf
- Stanford University v. Roche Molecular Systems, Inc., (2011, June 6). 563 U.S. 776. *Slip Opinion*. Retrieved from <https://www.supremecourt.gov/opinions/10pdf/09-1159.pdf>
- Servick, K., (2018, January 18). Broad Institute takes a hit in European CRISPR patent struggle. *Science*. Retrieved from <http://www.sciencemag.org/news/2018/01/broad-institute-takes-hit-european-crispr-patent-struggle>
- Stanford University v. Roche Molecular Systems, Inc., (2011, June 6). 563 U.S. 776.

- Slip Opinion*. Retrieved from <https://www.supremecourt.gov/opinions/10pdf/09-1159.pdf>
- Tuttle, B., (2016). Article: The failure to preserve CRISPR-Cas9's patentability post Myriad and Alice. *Journal of the Patent and Trademark Office Society*. Retrieved from www.jptos.org/news/464/80.html
- United States Patent and Trademark Office, (2001, July 31). First U.S. patent issued today in 1790. *Press Release #01-33*. Retrieved from <https://www.uspto.gov/about-us/news-updates/first-us-patent-issued-today-1790>.
- Waltz, E. (2016). Gene-edited CRISPR mushroom escapes US regulation. *Nature*, 532(7599), 293–293. doi:10.1038/nature.2016.19754
- Wray, B. (2017, September 1). CRISPR may prove useful in de-extinction efforts. *The Scientist*, 31(9). Retrieved from <https://www.the-scientist.com/?articles.view/articleNo/50157/title/CRISPR-May-Prove-Useful-in-De-Extinction-Efforts/>
- Yirka, B., (2017, November 17). CRISPR patent wars highlight problem of granting broad intellectual property rights for tech that offers public benefits. *Science*. Retrieved from <https://phys.org/news/2017-11-crispr-patent-wars-highlight-problem.html>
- Zang, S., (2016, January 5). An arcane patent law may decide CRISPR's big legal fight. *Wired*. Retrieved from <https://www.wired.com/2016/01/crispr-patent-dispute-gets-really-arcane/>

Enhancing Academic Publishing Skills

Thomas J. Buttery

Dickerson College of Education

Austin Peay State University

Professional writing offers a veritable cornucopia of benefits. Writers need an outlet to disseminate their research findings and use publishing as a way to contribute to their profession. They perceive writing as an empowering endeavor that helps clarify their ideas. As a bonus, most professors also enjoy the respect they receive from their peers and students when they use their publication(s) in their courses. However, for many new professors publishing is a survival skill for life in the university setting.

Good writers are not born, they are merely professionals who have acquired certain skills and have become adroit at using them. After all, the more you write, the more efficiently you become thinking through the process, dissecting various elements, and then synthesizing new entities. Unfortunately, the fear of the unknown keeps many professionals from engaging in publishing and enjoying the fruits of their success.

Like many skill-latent endeavors, writing for publication necessitates an understanding of the publishing process and a honing of relevant proficiencies. The intent of this article is to provide an overview of the writing process and to offer suggestions designed to help writers in preparing manuscripts it will include: topic generation, organizing ideas, and creating reader interest.

Topic Generation

Many writers are mystified about where to get publishable ideas. For new professors their dissertation is fertile fabric to start. Chapter Two should contain an excellent review of the research literature that can be woven into a publishable work. Then there is always the sharing of the findings from the study. Articulating and publishing material that makes your teaching clearer for students is lush with opportunity. Being involved in innovative programs is rich in potential publishing ideas. To start, Anderson (1994) suggests a three mode conceptualization; what is your purpose in writing up the idea (no, retention is not your true purpose), who is the audience or journal that you are addressing, and what do they need to know that you can share with them.

Attending professional meeting such as the National Technology and Social Science Conference offers an opportunity to listen for hot topics. A perusal of the presentation topics that are of interest is another source. Being an active reader keeps you well informed and allows you to assess developments in your field. Consider translating topics from other disciplines to your own. All publishable ideas do not necessarily start in your own discipline, by reading journals in other disciplines you help make connections to your own. You will be in a position to share related ideas with a new audience in your own field.

Organizing Your Ideas

When you read research-based journals, the articles are typically formatted in a style based upon the scientific method. Thus, you know most of the headings. However, once out of the research paradigm some writers struggle. As a journal editor, I have observed many of these problems. For instance, writers authoring six pages of introductory material before they ever tell you the topic of the paper. Others will submit 30 page manuscripts sans subheadings. Others will start a paper on one topic and

finish on another. Given the need for organization and structure in professional writing, I developed an eight-step process that I entitled formula writing (Buttery, 2010). The approach encompasses eight key features: title, introduction, outline or advanced organizer, headings, transitions, body of the paper, summary, and references.

Title

The intent of a good title is to let the reader know about what you will be disclosing. Two major considerations that go into the title selection is your purpose in writing, and the consumer's purpose in reading the material. Be careful not to word your title so long that it will not fit on a potential journals table of contents.

Introduction

Perhaps the hardest paragraph to write in a manuscript is the very first one. Writer's need to grab the reader's interest within the first page. Limit yourself to two to three paragraphs to establish the theme of the manuscript and to provide a rationale for the importance of the topic. Very few readers will go on for several pages of introduction without knowing where the paper is going. Near the end of your introduction, incorporate an advance organizer.

Advance Organizer

The advance organizer illuminates what is coming – the points you are going to establish, or the questions you will answer. Typically, this is a range of three to six points or questions. It is essential as a writer that you establish a sense of logic to your paper by developing points or questions that tightly relate to each other. An eclectic set of points will lead to a choppy manuscript that will have a low acceptance rate.

Let us look at a potential advanced organizer for an article. *Given the importance of the teacher-student relationship for establishing sense of achievement and commitment teachers must first believe in themselves, secondly sustain positive attitudes, and finally help students develop a self-perception that will assist them throughout life.*

Some examples of leads to advanced organizers include: *This paper will address how the school can attend to the learning needs of early childhood children by examining the following topics.... This paper will explore research findings in which teachers and students explore language acquisition. Viewpoints on (1) ... (2) ... (3)... will be examined.* Using an advanced organizer allows the reader to know the dimension and direction of the manuscript. It will also help them glean the paper for specific information that they may be attempting to locate.

Headings

The headings serve as a road map for the paper. The content under the heading directly aligns with the advance organizer's points, which allows the readers to skim the article and understand its organization. Consequently, readers can locate and assimilate quickly the information presented.

Continuous paragraphs without a break can be very difficult to read. The headings help let the manuscript breathe with an appropriate amount of white space. They serve as benchmarks as to where the writer should present material thus the writer can be crisp, clear, and relevant.

Transitions

Disparate sections of a paper adversely affects what the reader understands. Transitional sentences gently guide the reader from one paragraph to another and from one section to the next. Note that at the end of the introduction, in this paper, a sentence was placed guiding the reader to the advanced organizer section. This is an example of the use of a transitional sentence. Not every paragraph nor section requires this type of sentence. However, the inclusion of some transitional sentence enhances the flow of the manuscript.

Body of Paper

The body of the paper is its heart and soul. The composition of this section may require multiple drafts. As you draft this section, do not worry about precision, complete sentences, or finding the exact word. Get your ideas on the screen. The famous writer James Michener is reputed to have said: "I may be the world's worst writer, but I'm the world's best rewriter." Editing your article comes after you have drafted your thoughts. Once you have a draft you can start the process of adding and deleting words, sentences, and paragraphs. This is a time to start considering your transitional sentences.

In preparation of writing, do your research. Different writers use assorted techniques. My personal favorite method is to photocopy the various articles that I am going to use as potential references. While reading these articles I like to highlight key points with different color markers. Do you remember studying for a test and going over your one color highlights in the textbook? All I would see is a sea of pink. By rotating the marker's colors, you provide a visual guide to important points. While synthesizing the material you may recall that a key point was highlighted in blue, thus you look back through your references for blue highlights. Other writers like to use sticky notes on the photocopies marking key ideas. Still others will jot ideas on a pad, or note card. Different strokes for different folks. Find a technique that works for you.

Let us examine some common hints that can improve manuscripts. *Bruster et al.* The et al. means and all. The et does not have a period after it but the al. does. For a citation of three to five authors use the full set of names, the first time you cite the source and then et al. afterward. For citations of six or more authors, you use et al. immediately.

The teacher – student relationship that emerges for this interactive process is the cornerstone for students' successful classroom experience. McConnell (2017) posits that the personality of the teacher facilitates or obstructs the teaching - learning process. Lowe (cited in Rooks and Reitz 2018) supports this conclusion and comments that teacher's interaction with students has more impact on the students' lives than the instruction delivered by the teachers. The blending of information from two authors in

this sequence helps to avoid abstracting of information whereby each paragraph reports information from one source. Lowe is actually a secondary citation. The writer uses this form when they cannot get the primary documentation source. In this case, Lowe's work came from a speech and was not available for the writer to use, but the information was available through the Rooks and Reitz source.

What is wrong with the following sequence? *Just what is self-concept? Hunt (2015) views it as those impressions, beliefs, feelings, attitudes, and values that the individual perceives as describing himself. Simply stated, Stamey (2018) explains self-concept as that which an individual believes himself to be.* Did you recognize this as an example of sexist writing because of the pronoun "himself"? Use the plural to remove this problem. *Just what is self-concept? Hunt (2015) views it as those impressions, beliefs, feelings, attitudes, and values that individuals perceive as describing themselves. Simply stated, Stamey (2018) explains self-concept as that which individuals believe themselves to be.* Note the use of a question to start the paragraph. Writers promote reader involvement in their work by asking questions. However, be sure to address the answer to the question.

Chandler and Prentice (2016) found that the self-concept of teachers appeared to influence their performance more substantially than many other variables that have been traditionally given more weight. Anthony (2018) agrees, and additionally perceives the issue of personal dimension of teachers to be a significantly overlooked variable in the teaching process. Did you note that Chandler and Prentice were in past tense? Use the past tense when reporting specific research findings. It is however preferable to stay with one tense whenever possible with the active voice preferred over the passive voice. This was also a good example for combing two separate sources. However, be careful when you combine authors that you use the correct sequence of dating for the sources. For example, authors from a 2016 source would not agree with authors from a 2018 source.

Keele et al. (2018) note that teachers want good relationships with their students and want them to learn. However, most admit to being frustrated in meeting these expectations. Lambert (2018) indicates that,

Teachers who hold up a strong academic ideal, who demand homework, quiet, writing skills, who do not give good grades without some effort, are likely to antagonize students and their tax paying parents, have students avoiding their classes, and have conflicts which wind up in the office. (p. 94)

Direct quotations of 40 words or more are indented and single-spaced. The page number of the quotation goes outside the final period. For a quotation in the body of a paragraph, the page number goes inside the last period.

Peale (1952) contends that a positive attitude depends upon the type of thoughts that habitually occupy the mind. This Peale citation comes from his book *The Power of Positive Thinking*. There have been many printings of this book. Multiple printings are different from editions. A new edition of a text has been changed by at least twenty percent from a previous work. When citing editions use the publication date of the

edition that you are citing. However, in the case of a printing cite the original publication date of the work. Now we can go to the summary section.

Summary

The summary section helps the reader to digest the material. Based on the body of the paper authors may choose to draw conclusions in this section. However, it is not mandatory to have a summary section. In some cases, the writer has developed a sequence of material that does not need to be drawn back together.

References

Good writers carefully check their references. Match each citation in the body of the paper to its corresponding item on the reference page. Be sure that the dates for your references in the body of the paper match those on the reference page. Pay attention to the style of referencing the journal that you are submitting to uses.

As a journal editor, when manuscripts are submitted the first thing that I check is the reference page. If the author has not used the prescribed documenting format of the journal, for instance, *APA 6th edition* then I return the manuscript to the author(s) and request that they correct it. Most editors and reviewers of professional journals are not paid to do their jobs. It is a poor use of their time to have to correct basic elements. In addition, a reference page brimming with errors undermines the credibility of the author(s). Have a peer who knows the documenting style look over the manuscript before submitting it.

Reader Interest

While preparing the research for your manuscript leverage your reading time, take note of other writers techniques, ingenious introductions or summaries, quotations, and examples.

Phrases and Vocabulary

When reading reference material, note how various authors use nice phrases. Copy these phrases to a notebook for your personal use later. Here are some examples:

A similar belief is offered by...

A mixture of opinions are held about how to handle...

An applicable observation by....

... takes the stand....

philosophy is share by....

More recently...

This argument is supported by...

Simply vocabulary. Avoid excessive jargon, pedagogue, and clichés. Remember you are attempting to communicate an idea or concept to the reader not impress them

with your extensive vocabulary. Readers can quickly identify pretentious sounding sentence and paragraph construction. For example, the words use and utilize, in most cases simply go with use.

Sentences

An excellent book for helping writers to be concise is Strunk and White's *The Elements of Style* (1959). They advocate that sentences should not have any unnecessary words and paragraphs should not include any unnecessary sentences, just as machines have no unnecessary parts. Check for the length of your sentences. A good rule of thumb is when a sentence is over three lines divided it into more palatable parts. Syntax is the way authors arrange their words when they write. Awkward wording makes for difficult reading. We all have idiosyncrasies in our writing styles. Once you have discovered your own, be on the lookout when proofreading your papers.

Paragraphs

A century ago, writers used long and elaborate paragraphs. Today's readers prefer concise and to the point paragraphs. Consider varying the length of your paragraphs without disturbing the flow of your paper. It is easy to get lost when reading a full-page paragraph. Readers prefer shorter paragraphs to give their eyes and mind a quick respite. Conversely, too many short paragraphs in a row can be disrupting. When attempting to smooth my writing and improve the flow my best friend is the thesaurus. Good writing requires revision before the rough edges are worn away. The time spent smoothing or tuning a manuscript is time well spent.

Vary Your Verbs

Writers' use of verbs contributes to the readability of their works. Do not worry about your verb usage when drafting a manuscript, but it should become a concern in the editing process. Too many Smith states..., and Johnson finds... becomes boring. It is helpful to have a large repertoire of terms to use. I have constructed a list of terms that I keep on a sheet of paper at my desk when I am editing. Obviously, these words are not interchangeable but selecting alternative from "states" and "finds" will enhance the readability of your manuscript.

affirms	deems	justifies	show
agrees with	declares	judges	states
adds	demonstrates		strengthens
advocate for	denies	key note	stresses
advises	describes		stipulates
accents	depict	leverages	suggests
accentuates	depose	lucid	subscribes
acknowledges	develops		supports
admits	diminish	maintains	suspects
agrees	displays	manifests	swears
alleges	discusses		
asserts		notes	tell
assertions	emphasizes		toils
attests	encourage	observes	traces
argues	endorse		thinks
articulates	establish	patently	
avers	estimates	pledges	underscores
avows	expect	points out	underlines
	exhibit	portrays	understands
believes	explains	posits	
	explicates	postulates	vague
claims	expound	present	validates
charges	expresses	proclaims	verifies
cogent		professes	vexation
concludes	find/found	propose	views
concurs	finds support	provokes	vitalizes
confirms	focuses	purports	vouches
considers	fortify		
consign	further asserts	questions	wishes
contends			wills
convey	grants	rationalizes	wastes
corroborate		reasons	welcomes
creates	helps	recommends	
	holds	relegates	yields
deems	hypothesizes	reflects on	yet
declares	highlights	refers	
demonstrates		refutes	zealous
denies	illustrates	refutes	zippy
describes	indicates	regards	
depict	informs	reports	
depose	insist	resists	
develops	impeach	reveals	
diminish	is axiomatic		
displays	is self-evident		
discusses			

Remember Punctuation Makes a Difference

Remember that journals expect your writing to be correct. Some writers struggle with the mechanics of their writing. One excellent add on for your computer is the grammar checker from Grammarly.com. In addition, Grammarly includes a plagiarism detection. This one application will save you hours of proof reading, checking for misspelled words, and typographical errors. However, you still need to proof read your work. The wrong word spelled correctly can still slip into your manuscript.

If you have cut and pasted material to construct your manuscript be sure that, you have only used the material in one place. I have read numerous manuscripts where I say to myself – I have read that material before. Sure enough, I go back and find the same paragraph or sentences used earlier in the paper.

Be aware of the style used by the journals that you wish to send your manuscripts. Edit your work to conform to the prescribed style. Prior to sending a manuscript to a journal, I always ask one of my peers to read it. I want someone else to assess the flow and logic in the paper. However, be sure to select someone who will do more than just pat you on the back and tell you great job. There are just so many journals to submit any given manuscript to and you do not want to waste one over a problem that should have been resolved before submission. Others are just giving your paper suggestions. You choose which suggestions to incorporate and which ones to skip. Issues with the flow and logic of a manuscript is the number one reason that I see reviewers reject submissions.

Just as a painting emerges gradually from conceptualization to completion, Writers block out then fill in the salient material. When painters do not like a color scheme, they paint over it. As a writer, you have the opportunity to massage your words, sentences, and paragraphs to develop a publishable article. My granddaughter has started to play softball; she is attempting to learn the skill of catching the ball. I repeatedly tell her that it takes practice, and she will improve. As a writer, you need to write to improve. The time you spend enhancing your skills will pay large dividends down the road.

References

- American Psychological Association. (2010). *Publication manual of the American Psychological Association* (6th ed.). Washington, DC: Author.
- Andersen, R. (1994). *Powerful writing skills*. New York, NY: Barnes and Nobles.
- Buttery, T. J. (2009-2010). Writing for professional publication: An organizational paradigm. *SRATE Journal*, 19(1), 1-5.
- Grammarly Inc. (2009) Retrieved from <https://www.grammarly.com>
- Strunck, W. and White, E. B. (1959). *The elements of style*. New York, NY: Macmillan.

Youth and Teenage Suicide Prevention: Changing the Mindset

**Thomas J. BATTERY
John R. McCONNELL III
Eriksson College of Education
Austin Peay State University**

A child's death is always painful, and when the fatality is the result of suicide, the level of misery and anguish is immense. Consequently, public concern has been increasing over the disturbing rate of youth suicide. The American Academy of Child and Adolescent Psychiatry (2013) reported suicide as the third leading cause of death for those in the 15 to 24 year old range and the sixth leading cause of death for those in the 5 to 14 year old range. To put this in perspective, every 2 hours and 3 minutes a child/adolescent commits suicide, and for every completed act another 100 to 200 attempt suicide (King, Strunk, & Sorter, 2011). Additionally, many youth deaths, classified as accidents, should be identified as suicide.

While few question the intrapsychic and environmental turmoil experienced by a multitude of youth and teens, defining suicidal behavior in these populations is problematic. The National Center for Health Statistics tends not to classify completed suicides as a cause of death for children below the age of ten. This radiates from the belief that children below that age have not acquired a comprehension of the permanence of death and thus cannot commit suicide. However, a body of research (Matter & Matter, 1984; Pfeffer, 2000; Pompili, Mancinelli, Girardi, Ruberto, & Tatarelli, 2005; Tishler, Reiss, & Rhodes, 2007) indicated that younger children are capable of planning, attempting, and completing suicide.

An adult concept characterizes suicide as a conscious act of self-induced obliteration, best recognized as a multi-dimensional malaise in an individual who perceives an issue for which suicide is the best solution (Schneidman, 1985). Some authorities (Orbach & Glaubman, 1978; Pfeffer, Conte, Plutchik, & Jerret, 1979) contended that, for youth, suicide does not require a fully developed knowledge of the permanence of death. They believed that instead the critical variable is the child's selection of death as a feasible solution to overwhelming distress.

This paper will explore understanding suicidal behavior, assessment, short-term support, and developing a mindset.

Understanding Suicidal Behavior

There is a wide variety of etiologies ascribed to self-destructive behaviors, including developmental, metabolic, and psychological issues. For a child or adolescent, consideration must be given to the meaning they ascribe to the self-destructive behavior. While many dangerous behaviors result in serious harm or death, if the intent lacks a clear psychological motive to kill oneself, the cause of death is not to be classified as suicide.

Suicidal behavior is theorized into two broad categories: ideas and actions. The continuum ranges from non-suicidal ideas, suicidal threats, suicidal attempts, to suicide. Ideation includes thoughts or verbalizations about self-harm. Threats embrace verbalizations of self-destructive action, which could cause serious injury or death. Suicidal attempts are subdivided into two types, mild and serious. Mild attempts include those self-destructive behaviors that do not mandate medical attention nor seriously threaten life. Serious attempts have the potential to cause death and may require intensive medical care.

The American Academy of Childhood and Adolescent Psychiatry (2017) indicated that girls have higher rates of suicidal ideation and behavior than boys do, but that boys have a higher mortality rate. This is hypothesized because of girls

taking more passive actions such as overdoses while boys typically select actions that are more violent. In either case, assessment of youth suicidal intention can be very difficult. Verbalization skills are frequently lacking as many youth and teens may have difficulty expressing their feelings and ideas. In addition, the issues of anxiety, denial, or secrecy can compound this verbal difficulty. For children and adolescents, suicidal actions are often differentiated by the degree of lethality involved.

Lethality embodies the probability that a specific action or instrument will cause death as well the child's or adolescent's grasp of the potential effect of the action. In the first half of the equation, taking a half dozen aspirin has a low lethality, while stepping in front of a moving bus would have a high level of lethality. The second part of the equation involves intent. Does the child believe that the aspirin will kill them, or do they not believe stepping in front of the bus will lead to their death? Lethality is evaluated on a sliding scale. Point A would be the child clearly wishes to die and they believe the action they engage in will bring about their death. Point B would involve a degree of ambivalence by the child and their partial covert, or even unconscious, action to decrease the completion of the action that would cause death. Point C when the child plays a role in impeding the action that would cause death. Finally, Point D when the child does not really intend to die.

The issue of student suicide prevention is receiving considerable discussion in school literature. It is becoming more widely recognized that suicide screening and prevention is a need in schools. Many states are now requiring school systems to have a suicide prevention program and response protocol in place. It is essential that school staff know how to recognize potentially at risk suicidal students, have an understanding of salient variables such that they can assess the level of risk, and know how to talk with students, intervene, and solicit help.

Those dealing with a potentially suicidal child or adolescent should understand that during an acute suicidal period the individual might experience significant impairments in judgment, impulse control, memory, perceptual skills, attention, and cognitive processes. Individually or collectively, these impairments can contribute to lack of objective ability to assess the potential lethality of a given action. The younger the age of the child/adolescent, the greater the influence of these factors.

Both youth and teens can experience feelings with significant intensity given their brains are not fully developed, a process that will go on until their mid-20s. Thus, they may have considerable difficulty controlling their thoughts and emotions within a range they can endure. Siegel (2014) contended that youth and teens may be more vulnerable to suicidal ideation during this stage of life than any other point of their lives. He posited that emotions can start up more precipitously and with greater intensity during this time because the calming influence of the prefrontal cortex or the reasoning portion of the brain is still developing.

Assessment

The steadily increasing numbers of suicidal behaviors in school age children underscores the importance of classroom teachers identifying and supporting at risk students. While classroom teachers are not counselors or therapists, they may be the first to notice behavioral messages students communicate that they are experiencing psychosocial problems. For example, messages may include lack of energy, difficulty

in concentrating, academic failure, and prevailing sadness for students that is a change from their norm. In addition, students may express verbal signs of helplessness, social isolation, and remarks about a sense of failure or worthlessness. When these behaviors are in concert with disruption in the family or parental absence, physical abuse, drug or alcohol abuse, recent death or suicide attempt by family member, break up with friend(s), indicators that the student is being bullied, or reports of giving away personal possessions concern should be intensified, these students need referral to the school counselor and principal. They need immediate attention.

Short Term Support

When thoughts and emotions include self-loathing, hopelessness, isolationism, and bullying overwhelm youth and teens, they can start to make desperate statements. The National Association of School Psychologists (n.d.) underscored that most youth and teens who die by suicide share with someone their plan to hurt themselves prior to actually taking their lives. This is a cry for help that should not be ignored. Teachers and other educators want to help prevent self-harming behavior from happening in the first place. There is substantial ambivalence surrounding the decision to take one's own life and by recognizing the issue, these teachers are in a position to help. Teachers are not trained therapists nor should they be thought of as such.

At this point, children and teens need someone to assist them in gathering support. Teachers are frequently in the position of being a first responder. The best preventive measure for youth and teens is to have an open communication with a caring adult, one who will listen without judgment to the concerns that the child or teen is expressing. They need someone to say, "I care about you." Obviously, there needs to be referral to a counselor or administrator, but they may not address the short-term needs that the individual has. One falsehood that some may hold is that asking questions will increase the chances of children or teens hurting themselves.

The web site for Nursing Best Practice Guidelines has an excellent two-page inventory of questions to ask a person that is believed to be contemplating suicide. Likewise, Horowitz et al. (2012) conducted a study for the National Institute of Mental Health of potential suicide screening questions. The results were a four-question paradigm with 97% predictability. The four questions are:

1. In the past few weeks, have you felt that you or your family would be better off if you were dead?
2. In the past few weeks, have you wished you were dead?
3. In the past week, have you been having thoughts about killing yourself?
4. Have you ever tried to kill yourself?

McBrien (1983) suggested asking a ten-question sequence of questions to a student who indicates having thoughts about suicide.

1. How will you do it? The risk factor is high when they have a specific plan and method such as using a gun, and low when there is no plan.
2. How much do you want to die? A three-point scale is used: little desire to die, moderate desire, and intense desire.

3. How much do you want to live? The intent of this question is to get the student to refocus on living.
4. How often do you have these thoughts? High risk is reflected by indications of constant or frequent thoughts, and low is represented by rare or sporadic thoughts.
5. When you are thinking about suicide, how long do these thoughts stay with you? An indication by the youth or teen of fear of loss of control or an indication of lack of impulse control indicates the need for immediate referral for a psychiatric evaluation.
6. Is there someone or anything to stop you? An indication of a lack of support system is an indication of the importance of the conversation.
7. Have you ever attempted suicide? A history of suicidal behavior is an indicator of the need for sustained therapy.
8. Do you have a plan? High risk is reflected by a specific plan while a lower risk is indicated by no plan.
9. On a scale of one to ten, what is the probability that you will hurt yourself. This question offers a sound indication of the need for further referral.
10. What has happened that makes life not worth living? This helps give an indication stresses that the youth or teens life.

Evidence suggest that school-based programs provide quality opportunities for suicide prevention messages. There are several excellent commercial and school system developed programs available (see Miller, Eckert, & Mazza, 2009).

According to King, Strunk, and Sorter (2011), when teachers include problem-solving and coping skills, and address risk-taking behaviors, suicide vulnerability may be reduced. They indicate that key components of skill-based prevention programs attempt to increase self-esteem, self-efficacy, stress management, and communication skills. Self-efficacy attitudes are essential to enacting behavioral change. How can teachers address these needs in the classroom? For a potential answer to this question, we are going to focus on mindset. The principal developers of this domain are Gollwitzer (1990) and more recently Dweck (2006).

Mindsets

Mindsets relate to beliefs that individuals have about themselves and their most basic qualities. They can be a mental inclination, disposition, or frame of mind. An individual's mindset is a collection of thoughts and beliefs that shape thought habits. These habits influence how one thinks, feels, and acts. They affect how you make sense of the world. According to America's Promise Alliance (2015), there is general agreement that the quality of resilience or the ability to respond constructively to life's challenges is an important asset for child and adolescent development. While there is much to understand about how to promote resilience, it seems to be a particularly fertile area for addressing youth suicide issues. Dweck's (2006) work on mindset divided the concept into two categories: a fixed mindset versus a growth mindset.

Fixed v. Growth Mindsets

In a fixed mindset, people believe their qualities are immutable traits. For instance, they would believe traits like intelligence and talent are intrinsic and not nurturable. Individuals with a fixed mindset would spend their time validating their intelligence rather than enhancing what they could do to improve it. They would see talent as the only indicator that leads to success. Effort plays a minimal role in achievement.

On the other hand, people with a growth mindset believe their basic abilities can be developed through dedication and hard work. Dweck (2006) explained people with this type of mindset view traits like intelligence and talent as foundational, but a love of learning and resilience are needed for making great accomplishments. Effort with this mindset plays a much larger role.

When it comes to problems in life, a fixed mindset can lead to judgment and blame. Youth will say that they are not good enough. They think they cannot perform as well as their peers in school. Everyone else just seems to have it all. They might have thoughts like, "I am not popular. I will never have any real friends. Those kids are always doing things without me. What did I do wrong? I cannot get into college; I am not that smart. I am not good enough for that team." A fixed mindset is one of harshly judging oneself.

A growth mindset differs in that this type of internal conversation can still take place and still be sensitive to the negative thoughts concerning the problem, but rather than judging, individuals with this mindset take the information and ask questions to learn and take action to make a change. A growth mindset is more solution based. They may ask, "What can I learn from this? How can I improve? What can I change to make more friends? What classes do I need to take to get into college? What steps are needed to get on that team at school?"

Building a School Culture of Growth Mindsets

The best approach to reduce the number of youth suicides in the country is one of prevention. This involves discouraging fixed mindsets among schoolchildren and promoting growth mindsets instead. To build a school culture that encourages the type of growth mindset that would prevent suicide, school administrators need to take the following five steps: 1) recognize if there is a problem, 2) train school staff, 3) educate students, 4) involve parents, and 5) evaluate their efforts.

Step 1: Recognition of Any Problems

To help determine if children are thinking about suicide, it would help to have them fill out the following scale. Have them place an X along the line that indicates how they think about life:

[Figure 1]

For older students, another qualitative pre-assessment could be administered to reveal their thoughts about themselves. The goal is to capture their thinking prior to the other series of steps and then ask them to respond to the same questions at the

end of the intervention, to see if their outlooks improved at all. The same pre-assessment could also be given to teachers.

[Figure 2]

Evaluate their responses to see what proportion of your students and/or teachers have fixed mindsets. Responses like “we can all learn new things, but we cannot change how smart we are” and “talent is something you are born with” indicate beliefs that traits like these are unchangeable. Comments like “I have no talent” or “I can never seem to do anything right” are red flags for possible suicidal thoughts.

Step 2: Train School Staff

Some school staff will resist the belief that all children can master high standards and that gifted behaviors can be taught. Using the data that was collected in the previous step, planning for ways to train school staff can begin. It is important to remember that this will be a very new way of thinking for some teachers, so sensitivity in the delivery of the message is critical. People with fixed mindsets will believe that traits are innate, permanent attributes that probably cannot be changed. According to Wade (2012):

Adults with growth oriented mindsets are also more likely to engage in more challenging tasks, to persevere and to bounce back from adversity. Management teams with a growth oriented mindset outperform those with a trait-oriented mindset...Also very interesting to note is that people with a growth oriented mindset have a remarkably accurate assessment of their own performance and ability. Those with a fixed mindset have a remarkably inaccurate assessment of their own performance and ability. (para. 12)

Praise for students. One of the most basic ways to start with staff training is to start with how teachers and staff praise students. Researchers (Kamins & Dweck, 1998; Mueller & Dweck, 1999) found that it is better to praise efforts rather than outcomes. When students are praised for their intelligence, there are actually negative consequences for student motivation and achievement. Dweck (2006) discovered that conveying this message that intelligence was intrinsic might lead students to become overly concerned with appearing to look “smart.” This is particularly true for those students who are labeled gifted or high achieving.

Reframing praise statements to emphasize effort recognizes what the child or adolescent is able to contribute to their outcomes. When educators praise actions or tasks that students do, as opposed to what the students are, the students may attribute their accomplishments to their own effort. It might be something as simple as saying in addition to, “You did such a great job on that project” with “and I can tell that you worked really hard on it.”

School leaders need to design and deliver professional development for educators that help them find the right ways to praise students to promote growth within themselves, others, and the school in general. It is also important to implement a support system that can provide feedback to educators. This may include peer

coaching and observational feedback to promote the same type of praise for educators that we hope to encourage with students.

Socioemotional development of children. Neuropsychology is not a typical course covered in teacher education or educational leadership programs, but the socioemotional development of children, and the critical role the brain plays in this, is necessary to understand in the prevention of child and adolescent suicide. Neuronal connections are strengthened when students learn something new. These pathways within the central nervous system are strengthened and reinforced with practice and effort. The more connections you have, and the stronger these connections are, the more processing your brain exercises.

Developing mature responses to social and emotional challenges at a young age and reinforced during childhood development are critical to the health of our youth. While certainly not comprehensive enough to make experts of school staff, workshops like Marcia Tate's "Worksheets Don't Grow Dendrites" might be a good start for professional development for staff who do not have any background in the socioemotional development of children.

Step 3: Educate Students

Just as it is important to train school staff about growth mindset, it is helpful to educate students about how they can best set themselves up for success in their lives by adopting the right attitude. One of the most important considerations is that this may take a lifetime of lessons! Developing the right attitude, for some students, must be revisited and reinforced over time. Students should understand that characteristics like talent, intelligence, and adaptability are constantly changing based on effort, persistence, and motivation. Marshall and Comalli (2012) found that children believed that the brain's functions are limited to thinking, i.e., intellectual activity. However, with just brief classroom instruction, students became significantly more aware of the brain's broader involvement with all senses, physical activity, and everyday actions and decision-making (Marshall & Comalli, 2012).

Step 4: Involve Parents

In addition to working with staff and students, it is important to not forget one of the biggest allies for educators, the parents. Holding a growth mindset workshop for parents might serve as a wake-up call for them to consider a new way of thinking about their children's characteristics, like talent and intelligence. By remembering to focus on their children's actions, parents can spur improvements to behavior, motivation, academic achievement, socialization, etc., without relegating these characteristics to immutable traits. Simple changes like saying, "I really appreciate the effort you put forth in getting ready in the morning" instead of "You're so slow" can work wonders with youth. Offering workshops that encourage growth mindset praise, model flexibility, adopting a positive attitude and creating a positive atmosphere at home, and helping children find their niche would all enrich the growth mindset culture of the school.

Step 5: Evaluation

After spending the time and effort in promoting a growth mindset culture within the school, it is important to evaluate the effectiveness how well you, the school, and others are doing in upholding this sometimes-new way of thinking. How do you monitor and ensure that school staff are praising students in the right way? How do you know that educators and students understand the plasticity of the brain and how the socioemotional development of the children are proceeding in a healthy and constructive fashion? How involved are the parents in their children's upbringing and education?

One way is to reassess students and faculty using the pre-assessment tools from the first step. Look to see if there was any improvement in scores or answers. Another way is to make observations, either informal or formal, of behaviors in the school. Looking at student-student, student-teacher, and teacher-teacher interactions for evidence of growth mindsets can give you anecdotal support towards the building of the right type of culture for your school. Setting up Professional Learning Communities (PLCs) in the school can also bolster the growth mindset culture of the school. These communities can focus on and discuss the school's progress in nurturing a growth mindset among students. Sharing books like Dweck's or other research-based titles as readings for discussion might prove popular and meaningful.

There has been a long debate about nature versus nurture in child development circles and to what genetic attributes contribute to a child's success. James (2008) stated that holding onto the belief that genes primarily determine who you and your child(ren) can be is extremely toxic. Moreover, you might believe that there is nothing you can do in the event that you or your child(ren) suffer from a mental illness, if you ascribe to a fixed mentality (James, 2008). As school educators, it is important to promote a growth mindset culture in schools by seeing if any problems exist, training school staff, educating students, involving parents, and continually evaluating growth.

References

- American Academy of Child and Adolescent Psychiatry (2017). *Suicide in children and teens*. Retrieved from https://www.aacap.org/AACAP/Families_and_Youth/Facts_for_Families/FFF-Guide/Teen-Suicide-010.aspx
- America's Promise Alliance. (2015). Report. *What is mindset and what does it mean for youth resilience?* Retrieved from: <http://www.americaspromise.org/resource/what-mindset-and-what-does-it-mean-youth-resilience>
- Dweck, C. S. (2006). *Mindset: The new psychology of success*. New York, NY: Random House.
- Gollwitzer, P. M. (1990). Action phases and mind-sets. In E. T. Higgins & R. M. Sorrentino (Eds.), *The handbook of motivation and cognition: Foundations of social behavior* (Vol. 2, pp. 52-92). New York, NY: Guilford Press.
- Horowitz, L. M., Bridge, J. A., Teach, S. J., Ballard, E., Klima, J., Rosenstein, D. L., Wharff, E. A., Ginnis, K., Cannon, E., Joshi, P., & Pao, M. (2012). Ask suicide-screening questions (ASQ). *Archives of Pediatrics and Adolescent Medicine*, 166(12), 1170–1176.
- Kamins, M. L., & Dweck, C. S. (1999). Person versus process praise and criticism: Implications for contingent self-worth and coping. *Developmental Psychology*, 35(3), 835.
- King, K., Strunk, C., Sorter, M. (2011). Effectiveness of Surviving the Teens® suicide prevention and depression awareness program on adolescents' suicidality and self-efficacy in performing help-seeking Behaviors. *Journal of School Health*, 81, 581–590.
- Matter, D. E., & Matter, R. M. (1984) Suicide among elementary school children: A serious concern for counselors. *Elementary School Guidance Counseling*, 18, 260–7.
- Marshall, P., & Comalli, C. (2012). Young children's changing conceptualizations of brain function: Implications for teaching neuroscience in early elementary settings. *Early Education and Development*, 23(1), 4-23.
- National Association of School Psychologists (n.d.). Preventing youth suicide. Retrieved from <http://www.nasponline.org/resources-and-publications/resources/school-safety-and-crisis/preventing-youth-suicide>
- McBrien, R. J. (1983). Are you thinking of killing yourself? Confronting student's suicidal thoughts. *The School Counselor*, 31(1), 75-82.
- Miller, D. N., Eckert, T. L., & Mazza, J. J. (2009). Suicide prevention programs in schools: A review and public health perspective. *School Psychology Review*, 38(2), 168-188.
- Mueller, C. M., & Dweck, C. S. (1998). Praise for intelligence can undermine children's motivation and performance. *Journal of Personality and Social Psychology*, 75(1), 33.
- Nursing Best Practice Guidelines (n.d.). *Interview questions for assessment of suicidal ideation and plan*. Retrieved from <http://pda.rnao.ca/content/interview-questions-assessment-suicidal-ideation-and-plan>

- Orbach, J. & Glaubman, H. (1978). Suicidal, aggressive and normal children's perception of personal and impersonal death. *Journal of Clinical Psychology, 34*, 850-857.
- Pfeffer, C. R. (2000). Suicidal behavior in children: An emphasis on developmental influences. In: Hawton K, vanHeeringer K (Eds.). *The International Handbook of Suicide and Attempted Suicide*. Chichester, England: Wiley, pp. 220–35.
- Pfeffer, C. R., Conte, H. R., Plutchik, R. Jerret, I. (1979). Suicidal behavior in latency age children: An empirical study. *Journal of the Academy of Child Psychiatry, 18*, 679-692.
- Pompili, M., Mancinelli, I., Girardi, P., Ruberto, A., & Tatarelli, R. (2005) Childhood suicide: A major issue in pediatric health care. *Issues Comprehensive Pediatric Nursing, 28*, 63–8.
- Schneidman, E. S. (1985). *Definitions of suicide*. New York, NY: Wiley.
- Siegel, D. J. (2014). *Brainstorm: The power and purpose of the teenage brain*. New York, NY: Penguin.
- Tishler, C. L., Reiss, N. S., & Rhodes, A. R. (2007). Suicidal behavior in children younger than twelve: A diagnostic challenge for emergency department personnel. *Academic Emergency Medicine, 14*, 810–818.
- Wade, J. F. (2012, July 6). Editorial. *The Daily Bell*. Retrieved from <http://thedailybell.com/4055/Joel-F-Wade-Build-a-Growth-Mindset>.

Figure 1. Life outlook continuum.

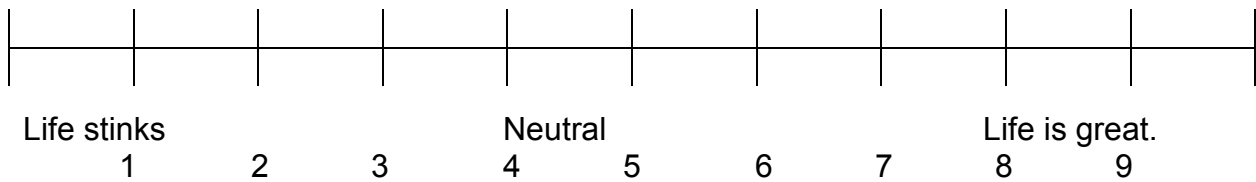


Figure 2. Mindset worksheet.

Name: _____ Date: _____

Please share your thoughts on talent, intelligence, and (any other pertinent trait).

My beliefs about talent are:

My beliefs about intelligence are:

My beliefs about _____ are:

Later in the year, we will revisit these to reflect on any changes in your responses.

Affirmative Action in Brazilian Higher Education and its Challenge
to Hegemonic view of Racial Democracy.

Luciano N. Cruz, M.A
College of the Canyons

Abstract

For centuries Brazilian ruling class and academic elites have widespread the myth of Brazil being a “**Racial Democracy**,” which has been legitimized by Brazilians of all race, ethnicity, and social classes. The legitimating of this myth has been used to cover up centuries of pervasive racial inequality in Brazil. In this essay, I present the reasons why I advocate for the maintenance of the system of quotas in Brazilian higher education implemented in 2000, during the administration of President Fernando Henrique Cardoso. The quotas system aims to guarantee space in the Brazilian public universities for Afro-Brazilians and indigenous (native Brazilians) students. For a nation that prides itself on being a “**Racial Democracy**” such an event put into question an image that Brazilians of different race and ethnicities have of themselves. The quotas policy created a unique opportunity to reflect in how race has been historically dealt in Brazil where a significant part of its population (Afro-Brazilian) hasn’t had fully access to the country’s social, economic, and political arenas. My objective in this essay is to provide a critical account of race in Brazil by focusing in the legacy of three hundred years of slavery, the construction and maintenance of racist ideas, white supremacy, and the role of the myth of racial democracy.

Introduction

Brazil is well known throughout the world as a country of widespread miscegenation between white Europeans descendants, black African descendants, and indigenous native Brazilians. Supported by the myth of racial democracy, Brazil has gained a worldwide reputation as a country with no racial problems relative to those which exist in other nations. It is said that in Brazil people of three different races live in an atmosphere of complete harmony with each other. On almost every occasion that the subject “race” is discussed, proud Brazilians whites, blacks and people of mixed blood say, “Everybody here is equal. There is racism in the United States, not here.”

Racial Inequality in Brazil

Maria Nazareth Soares Fonseca, professor of African Literature at Catholic University of Minas Gerais points out that in contemporary Brazil, black Brazilians still carry the same kind of image as those during slavery time. Fonseca argues that during slavery in Brazil, blacks were used as commodities in the sugar-cane plantations, in the mines, and later on in the factories. Each slave had his or her value calculated for what it represented as an exchange commodity that generated wealth for those in power (Fonseca 2000:89). Fonseca notes that Haitian author Rene Depestre argues that historically Brazil and other Latin American countries developed a crucial interrelation between human beings and their skin color and this phenomenon is so profound that until today in Latin American human bodies are seen through a coding of moral and exterior representation. It is part of these coding the combination of values that disvalue a black person and their social and cultural experiences (Fonseca 2000:90). Fonseca notes that, in Brazil after slavery, the society passed to discriminate blacks for don’t having the skills and preparation to enter the new forms of labor created by the new capitalist system. This was the price blacks had to pay for being freed from three hundred years of slavery and finding themselves outside the new capitalist norm of labor and labor relations (Fonseca 2000:90).

Seen as savage beings with small mental capabilities, black Brazilians entered the era post-slavery to occupy the most unskilled and lowest paid Brazilian jobs. Free

from slavery but victims of intense poverty, discrimination, and without any policy of protection or integration into society, the black national identity was created in relation to the low-paid and unskilled positions they occupied. In addition, seen as a degraded part of the Brazilian population, Afro-Brazilians were rejected by social activist movements that made the indigenous (native Brazilian) the symbol of Brazilian identity. The indigenous were seen as the ideal symbol of Brazilian nationality. Those images expose the silence about the black Brazilian situation. Since the abolition of slavery, black Brazilians were subjugated and expected to adjust to the social order in the country without any governmental support. As a result, they became the largest marginalized group especially in the ghetto in the large cities. Brazilian Historian, Lilian K. Mortiz Schwarz argues that at the turn of the eighteenth century, Brazil was a country without identity. The Brazilian project of national identity, created to show to Europe and North America that Brazil was a free and developing nation, left out blacks and mestizos that composed the large part of its population. By the end of the eighteenth century, Brazil had a population of about two millions blacks and about one million non-blacks (2000:13).

Furthermore, Schwarcz points out that Brazilian national identity was formulated by hiding the violence suffered by both blacks and native Brazilians and by denying to both full-citizenship. In a national project that began with the declaration of independence from Portugal in 1822, followed by the abolition of slavery in 1888 and the Brazilian Revolution in 1930, the racial question has always been camouflaged by mechanisms that tried to deny and hide the discrimination of those considered different from the expected societal norm. Schwarcz observes that in regard to how the Brazilian society dealt with slavery, the images of black and blackness continued to be reproduced by a combination of discriminations and prejudices that still define the treatment of blacks Brazilians in different arenas of Brazilian society (2000:14).

Florestan Fernandes a Brazilian sociologist who taught for several years at the University of Toronto, Canada claims that the mechanization of racial adjustment that took place in Brazil since slavery, shows that there wasn't in Brazil any form of openly conscious and organized resistance to foster discussion between whites, blacks, and mixed blood people as was the core in the United States with the Civil Rights Movement and laws that tried to integrate the newly freed ex-slaves into American society (2000:93). For Fernandes, the end of slavery did not represent a major change in the Brazilian power relation because power continued to be held by the white dominant elite. The small change that took place was mostly defined in personal terms when the former slave-owner decided to lease land to ex-slaves or in some cases to keep having the newly freed ex-slaves work on their land by giving them food and shelter in exchange for their labor (Fernandes 2000:93). Fernandes explains that those conditions fostered the myth of racial democracy because rather than having laws of protection and integration for ex-slaves into Brazilian economic and social life, integration was characterized by the "good will" of former slave owners in providing the means of existence for former slaves. Therefore, for centuries to come the slavery structure continued to define racial relations in Brazil giving a foundation to white supremacy and black subordination (Fernandes 2000:94).

Fernandes notes that since the beginning of the twentieth-century, the color of poverty in Brazil is largely black and mestizo where there is a significant correlation

between black skin and low-paid, unskilled jobs. Being black in Brazil is automatically associated to occupation of low-paid jobs that in large keep blacks from truly integrating into Brazilian society in a more significant manner (Fonseca 2000:98). As Evelyn Nakano Glenn, professor Ethnic Studies UC Berkeley notes, "Simultaneously, citizenship and labor have been arenas in which groups have contested their exclusion, oppression, and exploitation" (Glenn 2002: 2). In Brazil black skin continues to be a symbol of inferiority in a society where being black means depersonalization. As a result, individuals of black skin can be victims of brutal violence without it being seen as a shock to society. As Caetano Veloso and Gilberto Gil, two renowned Brazilian singers and songwriters write in lyric of song Haiti:

"When you were invited to go up the plaza of Jorge Amado Foundation, to see from the above the line of police officers almost all blacks beating up blacks crook and mulatto thieves, and the others who are almost-white but treated as blacks. Only to show to the others who are almost all blacks, how blacks, poor, and mulattos, and these almost-white-almost-black because too poor, are treated. It don't even matter if for one moment, the eyes of the whole world is turned to that site where the slaves was brutalized...nobody, nobody are citizens."

Fernandes explains that violence against the black body was an everyday routine during slavery and this phenomenon continues to be seen as normal since it is practiced against those who carry in themselves the color that symbolize dehumanization and exclusion from having full-citizenship in Brazilian society. On December 14, 1890, the then president of the Brazilian National Tribunal of Treasury, Ruy Barbosa, ordered all documentation that showed signs of the existence of slavery in Brazil to be burned (2000:95). Fernandes argues that in opposition to what is portrayed in the Brazilian history books that try to convey the image of Brazil as a pacific and cordial slave society, the use of violence as a form of control and intimidation shows how the slaves were treated as savage animals that necessitated the use of rigid force to control. As a result, it was common to use instruments to leave scars on the body, and brutal violence to intimidate others from trying to rebel against the system (Fernandes, 2000:95).

Inequality after Slavery

Elisa Larkin Nascimento psychologist, University of São Paulo points out that Brazil was the last country in the Western hemisphere to formally abolish slavery when it ended in May 13, 1888. Even though the country had an enormous population of Afro-descendants after slavery no measure was taken to incorporate the new class of former slaves into the country's social and economic life. Large numbers of ex-slaves stayed on the same plantations in a semi-slavery condition or moved to the large urban hills areas, which became today's shantytowns (favelas). These shantytowns became predominantly populated by ex-slaves excluded from the country's labor market (2007: 54). Economist Helio Santos argues that the way in which slavery ended in Brazil, with slaves being free without owning anything and without having any social, economic, or political support from the country's ruling elite explains the original foundation for blacks' historical poverty and exclusion in Brazilian society (2007:54). Santos notes that abolitionists such as Jose Bonifacio and Joaquim Nabuco tried to draw government

attention to the need to provide social support and create measures to help former slaves to integrate into Brazilian society. But their plea was disregarded since the Brazilian government was heavily composed of former slave owners. In opposition to Bonifacio and Nabuco's views, the governing elite in Brazil at the time consciously put into a plan a strategy to exterminate the black population by leaving them to starve, without homes and employment (2007:55).

In contemporary Brazil, racial inequality is mixed with ethnic racial denial. Different from African Americans, large numbers of Afro-Brazilians deny their African heritage. In Brazil, race is something people can change in their lifetime, usually by succeeding economically or marrying a lighter-skinned person. Any black Brazilian who has a little lighter skin is not considered black in the country's racial stratification. There are more than one hundred ways to classify people of mixed blood. Among the most common are *moreno*, *mulatto*, *pardo*, and *coffee with milk*. Black ethnicity in Brazilian culture is still something far from being embraced. It is not surprising that people of mixed race enjoy more social mobility than blacks. Economic achievement also determines people's racial status. Black Brazilians who succeed economically begin to be seen in Brazilian society as not black. There is a common statement in Brazil about Pelé, the black Brazilian well-known worldwide as the king of soccer that says, "Pelé has so much money that he is not black anymore."

The slavery perception of blackness is still very present in contemporary Brazil, where being black is associated with lack of intellectual capacity, acceptance of low-paying jobs, and inferior treatment. As Chua writes: "As a result, there is not black consciousness or indignation. Nobody sees this neighborhood that was running with blood as black neighborhoods: Nobody saw that blood that was flowing as black blood" (2003: 71). Since the 1960s the accelerated process of industrialization and urbanization has significantly improved living standards for most Brazilians. According to Pablo Gentili, director of a social program at the State University of Rio de Janeiro that studies race in education, "While 45 percent of the country's 170 million people defined themselves as either black or *pardo* in the 2000 census, only 17 percent of university graduates are of mixed race and only 2 percent are black. In addition, the majority of blacks and *pardos* are concentrated in such areas as social work and education, while law, medicine, and engineering departments are virtually all white" ((2003: 73)." Scholars argue Brazilian industrial development in the twentieth century was based in oppressive social class exploitation. Even though Brazil has extensive natural resources as well as industrial achievement, in 1999 Brazil ranked the second most unequal in income distribution and income concentration in the world, behind only Sierra Leone (2003: 73).

The Myth of Racial Democracy.

In 1945 Gilberto Freyre, a Brazilian social historian, published his best-known work: *Casa Grande e Senzala* (translated into English as *The Masters and the Slaves*, 1986). In this work, Freyre highly glorifies the formation of the Brazilian population through the country's pervasive miscegenation between white Europeans, black Africans, and indigenous (native Brazilians). Freyre articulates that the result of such a racial mix created a unique Brazilian population capable of living in an atmosphere of complete harmony, in other words, in a "racial democracy." Freyre also portrays early

Portuguese colonizers as having harmonious relationships with Indians and later on with Africans (brought to Brazil as slaves) (1945:12).

As France Winddance Twice argues, Freyre created an essential tool to be used against anti-racist activists by portraying the good character of the Portuguese and describing them as gentle masters, free of the hostile racial prejudice characteristic of the British who settled North America (1998:32). Stanley Bailey writes: "This myth was a source of national pride during much of the 20th century, as Brazilians compared their reality to that of a segregated and racially violent United States" (2004:2). Amy Chua law professor at Yale University points out that in contemporary Brazil, the majority of the population deeply believes in the myth that Brazil is a "racial democracy." In almost every occasion that the subject "race" is mentioned, proud white, black, or mixed blood Brazilians says that, "Everybody here is equal. There is not racism in Brazil." However, throughout Brazilian history, an image emerges of a country rooted in pervasive racial inequalities by color and race. The white and light-skinned classes always had complete economic, social, and political power in the country. (2003:70). Chua argues that, "Throughout Brazil the most prestigious and highest-paying jobs in business, politics, and universities are held by those with light skin. Brazil's exclusive private schools are glaringly white" (2003: 71). Chua also notes that there are millions of poor dark-skinned Brazilians who live in the ghettos of large cities and poor rural areas, working in low-paid jobs and filling up Brazil's prisons. The limited presence of Afro-Brazilians in positions of leadership, and the predominance of Euro-Brazilians in every aspect of Brazil's society is unquestionable and seen as natural, "commonsense." (2003:72). Racial inequality in Brazil has become something so pervasive that most Brazilians don't even question its existence.

The Role of Miscegenation.

The African slave's population in Brazil was larger than in any other country in Latin American. Historically, Brazil always had a large mixed-race intermediate category, which some historians have seen as the crucial point to understand contemporary Brazilian racial relations (Skidmore 1990: 6). Most members of the Brazilian elite believed that miscegenation would gradually "whiten" and therefore, improve Brazilian population. For Skidmore this ideology marked the unique racial formation of Brazil. He notes, "Having rejected the straightforward theory of absolute biological differences, the abolitionists nonetheless believed in racial influences" (1990:9). In other words, contrary to European and North American views of blacks and Indians as innately inferior and incapable of being civilized, in Brazil emerged the view that race can be improved. This ideology represented a great contrast to the established European and North American biological difference that led to policies of segregation and anti-miscegenation laws. The Brazilian elite believed that intermarriage and European immigration were the ways to whiten the population. They had a deep desire to largely increase the influence of what they called "higher" or "more advanced" civilization (Anglo-Saxon white European). The idea was that the process of whitening could be realized in cultural bases, not necessarily in physiological changes. In other words, the color prescribed to an individual became a reflection of his or her social status. (1990:10).

Denise Ferreira da Silva (1998) Brazilian professor of Ethnic Studies at University of California San Diego points out that miscegenation became the main

characteristic of the Brazilian population and the principal racial discourse. The diverse system to classify race and the emergence of a new racial element the “mestizo” (people of mixed blood) as well as the lack of recognition of institutionalized segregation and racial conflicts give the foundation for the belief of Brazil being a racial democracy. For two decades after 1930, Brazil gained the reputation of being a nation that lacked discrimination. It made Brazil look morally superior to many technologically more advanced countries that showed systematic racism toward minorities. The United States and Germany became classical examples of countries with deep racial problems. Today, despite the many documented and visible signs of racial inequality, Brazilians of all races and social classes are still embracing and defending the myth of racial democracy (Denise 1998:34).

Affirmative Action for Brazilian Higher Education and how it Challenges the Myth of Racial Democracy.

For decades social scientists have pointed out the enormous racial inequality in Brazilian higher education where the presence of blacks, mestizos, and other racial minorities is very minimal. In 2001, during the administration of President Fernando Henrique Cardoso, the politics of quotas for Brazilian higher education was implemented in some state universities generating large debate all across the country.

The politics of racial quotas for Brazilian higher education implemented in 2000 aims to guarantee space in Brazilian public universities for Afro-Brazilians and indigenous (native Brazilian) students. Almost never before, has race been so much discussed in the country. For a nation where a majority of citizens believe in the myth of “racial democracy” such an event definitely generates diverse responses and attitudes. As the result of historical inequality rooted in the legacy of three hundred years of slavery as well as pervasive racism in the socio, cultural, political and economic arenas of Brazilian society, Afro-Brazilian always had extreme difficulty entering Brazilian universities and successfully staying in them. Jacques Jesus professor of psychology and director of the department of diversity at University of Brasilia points out that since the beginning of the creation of institutions of higher learning in the nineteenth-century, there has never been any initiative to integrate Afro-Brazilians into the academy. Today, Afro-Brazilians make up only 2% of students enrolled in Brazilians public universities, while blacks constitute 45% of the Brazilian population (Jesus 2006:10).

Research by the University of Brasilia in 2006 shows a large disparity between the incomes of Afro-Brazilian students in comparison to those of white or mixed-race students. The data show that 57.7% of black candidates who attend Brazilian public universities have family incomes below 1,500 reais (real, the Brazilian currency); however, white candidates have family income of 30% more than black candidates. Another disparity is shown in relation to those whose family income is higher than 2,500 reais where 46.6% of white candidates are represented in this category, while only 20.4% of blacks are (2006:11). Jesus argues that the implementation of a system of quotas or affirmative action to Brazilian higher education is a response to the fact that for centuries Brazilian universities have been a space reserved for the formation of white intellectuals and professionals (2006:12).

According to Lilia G. M. Tavolaro (2008) the policy of quotas was first established in 2000, in the State Universities of Rio de Janeiro (UERJ) and in the North Fluminense State University (UENF). These two institutions were the first Brazilian public state

universities to demand 40% of their admission to “self-declared blacks” and those of mixed-blood (2008:145). The Legislative Assembly of the State of Rio De Janeiro established this admission policy in November 9, 2001. In 2004, the University of Brasilia (UNB) became the first federal university to implement affirmative action for black and indigenous (native Brazilians). The UNB’s Council of Teaching, Researching, and Continuing Education (CEPE) established quotas of 20% for black students and in agreement with the National Foundation of Indigenous People (FUNAI) created a program to facilitate the admission of indigenous students to UNB (2008:146). Mala Htun (2004) discusses that even though quotas for higher education have not been the only or even the first racial affirmative action policy in Brazil, it has been deeply impacting the racial discourse in the country. The quotas gained visible national attention especially because in the same period Brazilian black activists were preparing to attend the World Conference on Racism at Durban, South Africa, which aims to link racism to racial inequality (2004:760).

There were many reactions to the quota policy implemented in 2001, initially established in two state universities in Rio de Janeiro State. A large number of Brazilians, mostly white or light skinned, argued that class rather than race is the major obstacle for students entering Brazilian universities. In addition, the quota policy does more than just guarantee opportunity for black Brazilians, indigenous, and other Brazilian racial minorities to attend Brazilian universities. It also impacts Brazilians’ views of racial relations in the country. The quota policy created an essential opportunity to openly discuss race a subject that is often ignored and camouflaged by the hegemonic view that Brazil is a nation where people of different races and ethnicities live in complete harmony. In other words, the quota policy challenges the historic belief that Brazil is a “racial democracy.” An examination of Brazil’s racial formation shows a country deeply-rooted in pervasive racial inequality. Euro-Brazilians and the light-skinned portion of the population have and always had complete control of every aspect of Brazilian society while black Brazilians and other minorities have their opportunities for advancement limited by persistent racism.

Conclusion

The quota policy does more than just guarantee opportunity for black Brazilians, indigenous, and other Brazilian racial minorities to attend Brazilian public universities; it also impacts Brazilians’ view on race. The quota policy created an essential opportunity to openly discuss race a subject that is often ignored and camouflaged by the hegemonic view that Brazil is a nation where people of different races and ethnicities live in complete harmony. In other words, the quotas policy challenges the historic belief that Brazil is a “Racial Democracy.” A simple examination of racial relation in contemporary Brazil, show a country deep-rooted in pervasive racial inequality. Euro-Brazilians and the light-skinned portion of the population has and always had complete control of every aspect of Brazilian society while blacks Brazilians and other minorities have had their opportunities for advancement limited by the persistent of structural racism.

Works Cited

- Bailey, Stanley R. 2004. Group Dominance and The Myth of Racial Democracy: Attitudes in Brazil. *American Sociological Review* 69:728-747.
- Bonita-Silva, Eduardo. 2003. Color-Blind Racism and the Persistence of Racial Inequality in the United States. Lanham, MD: Rowman and Littlefield.
- Chua, Amy. 2003. *Word on Fire*. New York.
- Crook, Larry and Johnson, Randal. 1993. *Black Brazil*. Los Angeles, CA: UCLA.
- D'Adesky, Jacques, 2001. *Racismos e Anti-Racismos no Brasil*. Rio de Janeiro, RJ.
- Fonseca, Maria Nazareth Soares. 2000. *Brasil Afro-Brasileiro*. Belo Horizonte, Autentica.
- Freyre, Gilberto, 1946. *The Masters and the Slaves*. New York. Graham, Richard. 1990. *The Idea of Race in Latin American, 1870-1940*. Austin, TX: University of Texas Press.
- Hanchard, Michael. 1999. *Racial Politics in Contemporary Brazil*. Duke University Press.
- Nascimento, L. Elisa. 2007. *The Sorcery of Color: Identity, Race, and Genders in Brazil*. Philadelphia, PA: Temple University Press.
- Omi, Michael and Winant Howard. 1980. *Racial Formation in the United States: From the 1960s to the 1980s*. New Fetter Lane, London.
- Racusen, Seth. 2004. The Ideology of the Brazilian Nation and the Brazilian Legal Theory of Racial Discrimination. *Social Identities*, 10:6, 775-809.
- Reichmann, Rebecca. 1999. *Race in Contemporary Brazil*. The Pennsylvania State University. PA
- Schwarcz, Lilia K. Moritz. 2000. *Brasil Afro-Brasileiro*. Belo Horizonte. Autentica.
- Silva, Denise Ferreira Da. 1998. "Facts of Blackness: Brazil is not Quite the United States...and Racial Politics in Brazil? 1" *Social Identities*, 4:2, 201-237.
- Silva, Denise Ferreira Da. 2004. "An Introduction: The Predicament of Brazilian Culture." *Social Identities*, 10:6, 719-734.
- Twine, France Winddance. 1998. *Racism in a Racial Democracy: The Maintenance of White Supremacy in Brazil*. New Brunswick, NJ: Rutgers.

New Technologies and Applications for Developing Cross-Cultural Competencies and World Languages Skills

Evelyne Delgado-Norris

Chicago State University

One of the important principles of communicative language teaching and proficiency development is that *authentic language* “should be used in instruction wherever possible (Omaggio, 2001). In her book Teaching Language in Context, Omaggio states that “opportunities must be provided for students to practice using language in a range of contexts likely to be encountered in the target culture.” (Omaggio, 2001). In the 21st century global world, where communication and collaboration across different fields and cultures is vital, new methodologies for teaching and learning foreign languages have arisen. We do not ask students “what do you know about the language?”, but rather “what can you do with the language?” and “how can you function appropriately in specific cultural contexts demonstrating cross-cultural competence?” Technology has transformed boring repetitive drills and dry exercises into dynamic interactions, realistic tasks, and the ability to engage with creative projects in and outside of the classroom. Students now have the ability to access more authentic content, interact with native speakers within culturally relevant spaces, and produce documents and projects which demonstrate not only language skills, but also readiness to communicate and think critically across borders.

The Evolution of Language Teaching and Learning in the 21st Century

What we call “21st century skills” brought forth by the “Partnership for 21st Century Learning” (P21) refers to a broad set of skills and dispositions that have been identified as essential for success in today’s complex world. These include applied skills, cross-curricular and interdisciplinary skills, transferable, and soft skills to name a few. A more precise and exhaustive list of skills include:

- Critical thinking, problem solving, reasoning, analysis, interpretation, synthesizing information
- Research skills and practices, interrogative questioning
- Creativity, artistry, curiosity, imagination, innovation, personal expression
- Perseverance, self-direction, planning, self-discipline, adaptability, initiative
- Oral and written communication, public speaking and presenting, listening
- Leadership, teamwork, collaboration, cooperation, facility in using virtual workspaces
- Information and communication technology (ICT) literacy, media and internet literacy, data interpretation and analysis, computer programming
- Civic, ethical, and social-justice literacy
- Economic and financial literacy, entrepreneurialism
- Global awareness, multicultural literacy, humanitarianism
- Scientific literacy and reasoning, the scientific method
- Environmental and conservation literacy, ecosystems understanding

- Health and wellness literacy, including nutrition, diet, exercise, and public health and safety. (<http://edglossary.org/21st-century-skills/>)

How does the world languages classroom address these new goals and skills? First, trends in teaching have fundamentally shifted from more traditional teacher-centered and individual skills-based approaches to communicative and “CAN DO” approaches. In addition, the potential of ICT (Information and Communication technologies) has enhanced student motivation and transformed many of our boring drill-oriented exercises and tasks into exciting and more authentic tasks. The following comparative chart of language learning through time reflects this important shift:

IN THE PAST	TODAY
-Student learn about language	-Students learn to use the language
-Teacher-centered class	-Learner-centered with teacher/facilitator
-Focus on isolated skills	-Interpersonal, interpretive, & presentational all
-Using the textbook as curriculum	-Thematic units and authentic resources
-Isolated cultural factoids	-Perspectives, products, & cultural practices
-Only teaching language	-Language as the vehicle for other content
-Confining language to classroom	-Opportunities to use language beyond classroom
-Traditional paper/pen testing	-Assessing to find out what students can DO

Building Language and Engaging Cross-Culturally Using Collaborative Spaces

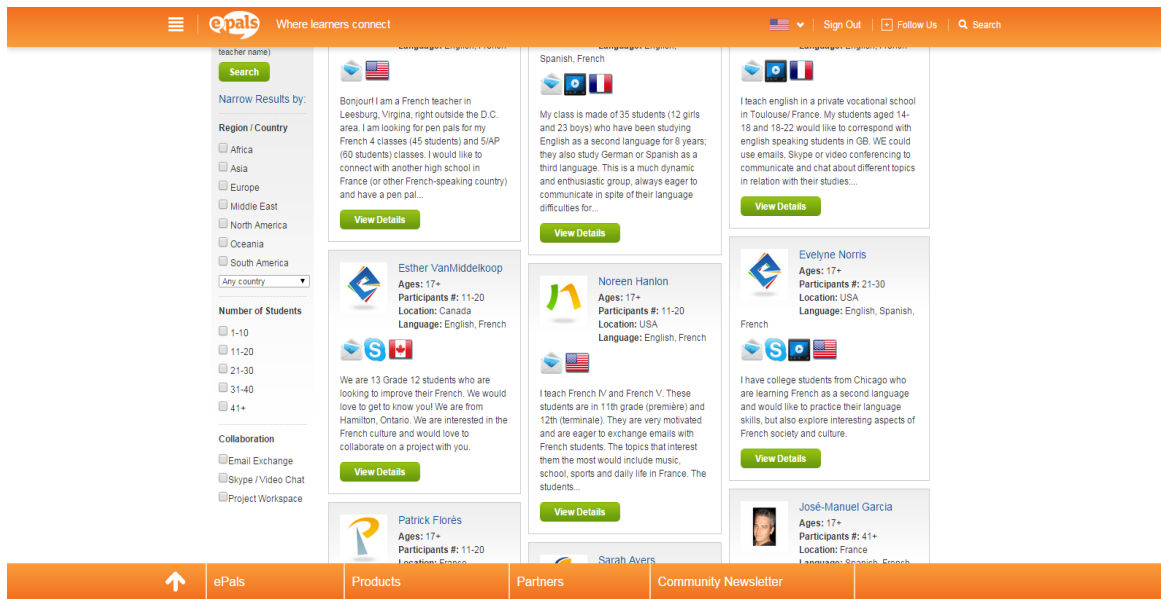
One of the main characteristics of language teaching today is making the target language “authentic,” in other words: what can students do with language in meaningful and culturally engaging contexts?” With the help of technology, students can apply grammar and vocabulary learned in the classroom as well as direct communication in collaborative tasks. **The Global Classroom project** is an engaging activity which aims to connect foreign language learners across the globe to practice language skills, but also to engage in the exchange of cultural information, increase global understanding, and shed barriers. For this particular project, students connect with students abroad using a collaborative online space such as **epals**. In a structured and guided environment, classrooms can connect and **share collective projects** around a particular theme or students can just communicate person-to-person with an epal through email or videoconferencing to practice language. A recent project of interest to both world language and social studies students centered on food and was recently entitled “A Taste of Culture.”

DESCRIPTION
What is bird’s nest soup, and what can it tell you about the people who love it? By looking closely at the ingredients, cooking tools, and directions in a traditional recipe, you can discover a lot about the country. Beginning with a class-to-class recipe exchange, this Experience guides students in different countries through close examinations of favorite recipes that are unique to their country, culture, or community. Using each other and the recipes as resources, students look for answers to the following questions:

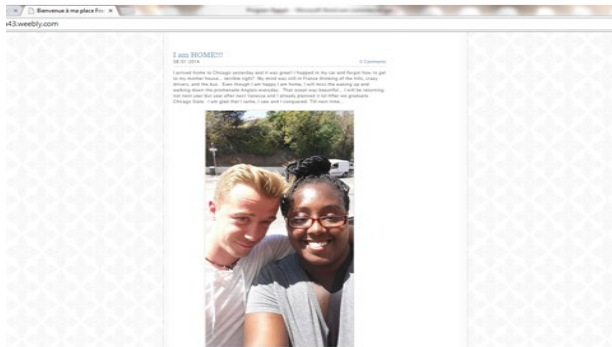
- What do the ingredients reveal about the partner class' location or climate?
 - What do the preparation techniques and tools say about partner class' geography or culture?
 - What cultural traditions does this food reflect?
- (from the epal website epals.com)

Such a project creates not only “communities of learning,” encourages person-to-person interaction, but it also develops students’ language and critical thinking skills, confidence with technology tools, and awareness of the relativity of culture and practices around the world.

The **epal** platform is commonly used by students in the French program at Chicago State University. In light of the study abroad program in France and to prepare students for their summer experience, the French language program puts its students in contact with an English learning class in France.



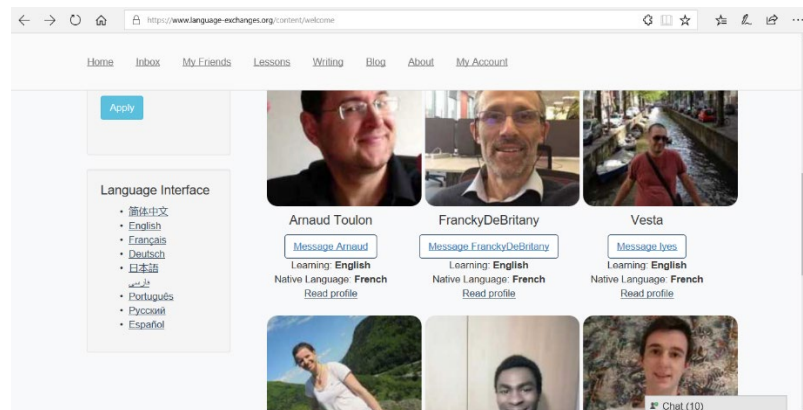
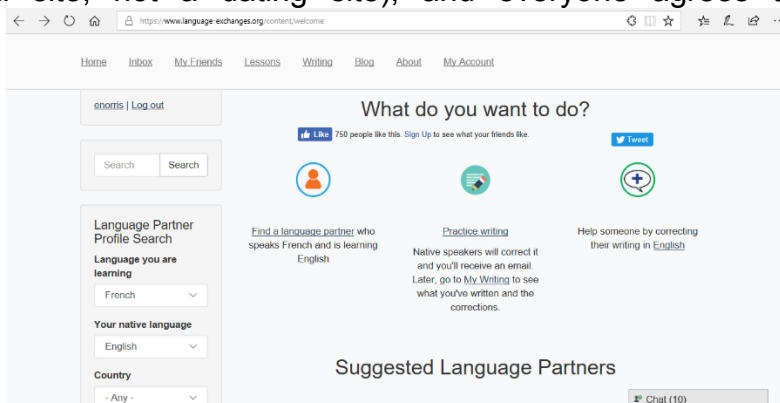
The experience can allow an insider’s look about the cities students will be visiting and the people they will encounter. All of this, leading ideally to meeting the epal in person in France during summer study abroad.



(from Niccole’s blog)

Other collaborative spaces such as the **Mixer** are particularly geared toward foreign language development and practice. The site states as its goal: “The Mixer is designed to connect language learners around the world so that everyone is both student and teacher” (<https://www.language-exchanges.org/>). On the site, students can find a language partner, talk to them via Skype, and give input for correct language use when speaking, but also writing. The site makes very clear from the start that “guidelines are very simple. Members are here to practice a language (this is an educational site, not a dating site), and everyone agrees to be respectful and

courteous”.



(<https://www.language-exchanges.org/>)

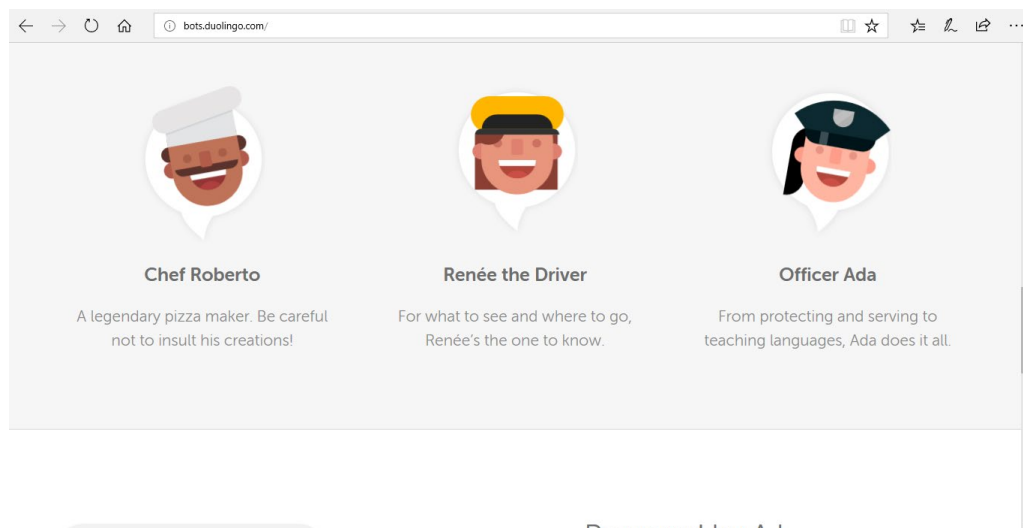
The diversity of the participants is particularly noticeable. When browsing through French native speakers, for example, students are able to better understand the make-up of the French-speaking world which extends far beyond France, but also see the diversity of French society itself on the mainland. Age and gender diversity are also represented allowing students to find a perfect match.

Mobile Assisted Language Learning

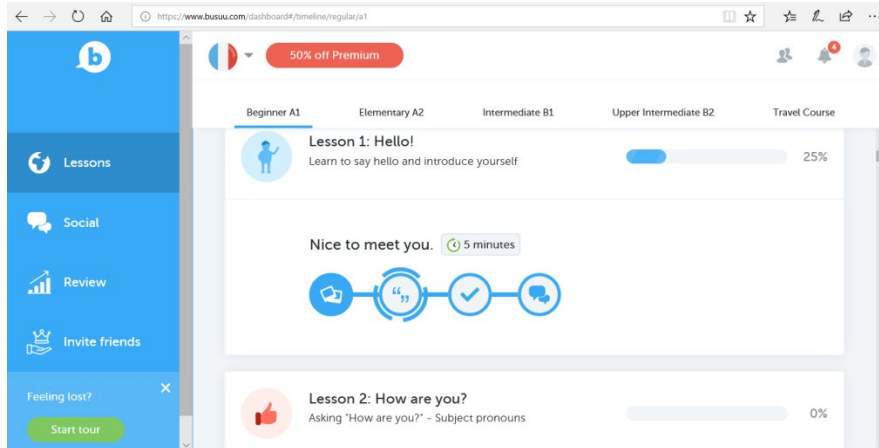
One of the great opportunities that world language instructors are trying to tap into is students’ mobile technology. Mobile Assisted Language Learning (MALL) has capitalized on learners’ extensive use of handheld devices in including cell phones,

smartphones, ebook readers (Kindle), MP3/MP4 players, ipads, and other tablets. Mobile learning is creating an interactive environment where students find immediate accessibility and engagement and, in turn, additional reinforcement and practice of content outside of the classroom. The main features of MALL are immediacy, accessibility, interactivity, and collaboration (Ogata & Yano, 2004). Learning is accessible because most students own some kind of mobile device, in particular smart/cell phones which outweighs ownership of simple laptops. In the past, with computer ownership and internet access, teachers were worried about the technological divide in terms of socio-economic levels of students and the ability for some to afford technology tools and use the internet. Today, regardless of socio-economic status, most students at least own a cell/smart phone and have gained the opportunity to use a certain number of tools and communicate with others. For extended learning and communication outside of the classroom, mobile learning exposes students to additional hours of language use, but also creates prospects for more contextualized learning: performing language tasks that are meaningful and relevant to students.

Popular free language apps include **Duolingo**: you can choose “casual” (5 min. a day) to “insane” (20 min. a day or more). And now, for a more authentic feel, Duolingo has added “**Duolingo Bots**” who help you with simulated “real-time” conversations. “Duolingo Bots are powered by Artificial Intelligence and react differently to thousands of possible answers. Feeling stuck? Hit “help me reply” and they’ll come up with suggestions”. Powered by artificial intelligence, the more you practice, the smarter they get....and so do you! (bots.duolingo.com)



Other platforms are very similar such as **busuu.com** (has the European levels A1, A2, B1, B2, ect.). The app teaches you vocabulary words and phrases, both isolated and in sentences, and then quizzes you as you move forward through the levels to test your knowledge.



Many language learners focus on speaking, but listening is an even more important and vital skill for language development. Research shows that when we communicate, we spend around 40-50% of our time listening, 25-30% speaking, 11-16% reading and only 9% writing. Mobile apps have facilitated our effort to expose students to authentic and quality listening materials and cultural content in the target language. Students can open iTunes and subscribe to foreign language podcasts for authentic renditions of discourses around every day topics of interest. *Podcastfrançaisfacile*, for example, offers dialogues, news reports, literary texts for our listening pleasure. Instructors can assess students' comprehension through questioning, discussion sessions, or journal writing (reflections) using a platform such as Penzu (electronic journal at penzu).

Finally, “mobile reading” is quickly accessible for world language learners. Whether students choose to read fiction or non-fiction, short news articles or short stories, they will develop interpretive and critical thinking skills with regular exposure to authentic texts. Basic mobile phones, tablets, and e-readers such as Kindle offer new, affordable and easy-to-use portals to reading material in many languages. The free **Readlang** program available as a mobile app comes with many outstanding pedagogical features that make it a favorite for both instructors and students. While students read a selected text in the target language, they are able to highlight words and expressions to be translated if needed. The program simultaneously creates a word/vocabulary list that is later available for study and the creation of flashcards for assessment practice. Below is an example from a French reading assignment.

https://readlang.com/words

Home Library Word List Flashcards Get Web Reader

Lookup: Search

Actions Recently Modified 1 - 7 of 7

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	...ssions de gaz à effet de serre , la température sur Terre au...	greenhouse gas	Les 15 conséquences du réchauffement c...
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	...la fin du siècle , entraînant des impacts "gra...	century	Les 15 conséquences du réchauffement c...
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	...uences du réchauffement climatique	global warming	Les 15 conséquences du réchauffement c...
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	...ction des émissions , entre 1986-2005 et la fin d...	emissions	Les 15 conséquences du réchauffement c...
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	...crité (la quotidienneté chez Heidegger), à exercer c...	everydayness	DEVIENS CE QUE TU ES (NIETZSCHE)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	...confié ce secret : "Vois, m'a-t-elle dit, je ...	secret	DEVIENS CE QUE TU ES (NIETZSCHE)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	...-même m'a confié ce secret : "Vois, m'a-t-elle dit, je ...	entrusts	DEVIENS CE QUE TU ES (NIETZSCHE)

Help & Feedback

readlang.com/library/5a9ccc0d58c28f001eaf7549/from/0

< R Les 15 conséquences du réchauffement climatique

Les 15 conséquences du réchauffement climatique

greenhouse gas

Si l'on ne réduit pas les émissions de **gaz à effet de serre**, la température sur Terre augmentera de 4° par rapport à l'ère pré-industrielle d'ici à la fin du siècle, entraînant des impacts "graves, étendus et irréversibles", selon le Groupe intergouvernemental d'experts sur l'évolution du climat. Voici les 15 principaux impacts:

Élévation du niveau des océans

- L'océan va encore se réchauffer et s'acidifier.
- L'élévation du niveau des mers va se poursuivre à un rythme encore plus rapide: elle pourrait aller de 26 cm à 82 cm, en fonction des émissions, entre 1986-2005 et la fin

Add to Reading Queue 0% - 11% Powered by Google Translate

New methodologies for teaching world languages and engaging students with authentic tasks have arisen to develop language and cross-cultural competencies. World language teaching with a focus on students' production of "real" communication and engagement with authentic materials allows students to use the target language in meaningful contexts. Today, technology and mobile learning in particular provide many easy tools for creating tasks in and outside of the classroom. Sooner or later, language learning, regular communication across borders, and access to target language texts will become learning "on the go" and, hopefully, an everyday habit for the next generation.

References

- Beale, Vangie. "mlearning". Webopedia. <http://www.webopedia.com/TERM/mobile>
Retrieved January, 5, 2018
- Epals by Cricket Media. <http://www.epals.com/#/connections>. Retrieved January 20, 2017.
- Martinez A.G. (2002). Authentic materials: an overview. In Karen's Linguistic Issues. <http://www3.telus.net/linguisticsissues/authenticmaterials.html>. Retrieved January 30, 2018.
- The Mixxer. <https://www.language-exchanges.org/>. Retrieved January 30, 2018.
- Oagata, M. & Yano (2004). Context-aware support for computer-supported ubiquitous learning. Wireless and Mobile Technologies in Education Conference, 2004. Proceedings.
- Omaggio Hadley A. (2001). Teaching languages in context. Boston: Cengage.
- Partnership for 21st Century Learning. <http://www.p21.org/>. Retrieved January 30, 2018.
- Podcastfrançaisfacile. <https://www.podcastfrancaisfacile.com/>. Retrieved March 3, 2018.
- Readlang. <http://readlang.com/> Retrieved March 20, 2018.

Conservative Politics in Turkey:
The Determinants of Discourse Construction

Birol Demircan
Gazi University, Ankara/Turkey

NOTE TO READER: Dr. Demircan is a visiting post-doctoral scholar at Central Washington University. He is doing a comparative study of conservative political discourse in the US and Turkey. His NSSA presentation is excerpted from work he had completed on the Turkish side over the past several years during the second month of his residency at CWU. The short paper that follows is composed of translations of excerpts from his work in Turkey—English, French and German sources had been translated into Turkish. The resulting translation of his understanding in Turkish back to English provides window on the cultural differences that will/would be lost in a polished version. We plan to attend the meeting this summer at Lake Tahoe. We present this paper to the membership in the hope that I will generate interest in a session where we can explore the questions it raises.

Rex Wirth

Introduction

Political discourse increasingly centers on conservatism and nationalism everywhere in the world. Mass appeals cause people to believe that the preservation their individual prosperity and safety of their communities depend on their own culture and national values which must be defended. This observation lead to the key research question of the project: Why are mass communities increasingly choosing conservative populism? Those who want to keep things as they are or return to the good old days do seem to be better at making populist appeals to mass audiences, but why are these appeals working?

One possibility is that the complexity that brought individuals a wide range of choice, opportunity and prosperity also brings increased risk and uncertainty which can trigger protection and preservation reflexes. In this situation, established values embedded in common (national) culture can be seen as protection the individual from the ravages of globalization rather than as traditional barriers to national development. This idea of preserving past gains from new kinds of external threats to the nation by returning to the old cultural structure gives Conservatives access to Liberal discourse e.g. equality, justice and rights and effectively barres Liberals, progressives and, even, Socialists from the realm of populist discourse. Whereas classic conservative thinker Edmund Burke (2006) was stuck with the aristocracy, today's conservatives have access to the full range of anchors for their discourse.

As conservative thinkers defend the power of the state and cultural values, they reinforce the hierarchical nature of society. Since there cannot be equality in the distribution of power, status and property, their rhetoric undermines the liberal view of authority as born from a contract of free individuals because if they were not equal they could not freely do so. Micheal Oakeshott, a conservative thinker, describes the administration in the following way:

“The task of administration is to impose beliefs and activities on citizens, not guide or train them; not to try to make them happy in another way; not to provoke or coordinate their activities in such a way that any conflict will arise; management is simply a function”(Oakeshott, 1991: 162: 186).

According to Oakeshott, authority, discipline and hierarchy are necessary. So the touted “questioning of authority” is not necessary or useful for the continuation of social order. This is the beginning of the concepts of new right and new conservatism in America that have been adapted and used effectively in Turkey and around the world.

Kevin Philips, launched the New Right in 1975 and set the social direction of conservatism. As an ideological tradition in the context of conservatism, New Right argues for market individualism: a union of social and state authoritarianism. These two strands are known as neo-liberalism and neo-conservatism (Heywood, 1998: 116). Neo-conservatism (Neo-Conservatism) revives and revises the conservative social principles of the 19th century. The expected conservatism, which is a constant idea, is in a development that can constantly renew itself. It can only be explained that it took place in power from the 1970s. The Thatcher Government in England (1979-1990) and the US Reagan Administration (1981-1989) are conservative governments, generally called New Right. New Right's ideas have indicated that conservatism has not been related to the free market. These critics have been in these criticisms because they are the most important factor influencing the New World of the classical liberal economy (Heywood, 1998: 87). New Right ideologies have strengthened traditional conservative principles such as order, authority and discipline. At the same time, state intervention is divided into two branches, a paternalistic tendency and a libertarian defense of the free market. Along with that, they have started to embrace different traditions. New Right or Neo-conservatism is regarded as an attempt to integrate economic libertarianism and authoritarianism in the state and societies (Heywood, 1998: 114). The New Right movement moves with an understanding that emphasizes nationalism in order to strengthen the family, protect the social order by increasing punishment, strengthen national ties and identity. New Right thinkers who lead by the demand for more place in religious life show sensitivity when it comes to the prohibition of abortion and pornography (Medcalf and Dolbeare, 1985: 26). Under the influence of the new Right liberal tradition, the state demands to be kept limited in economic and religious activities.

The new Right Thought has been shaped around these ideas. Contrary to the old conservatism, Neo-Conservatism has been discussing ethical issues related to cultural values such as child education, educational policy, status of women and family, sexuality and the application of religion. In this way the new conservatives are separated from the social base of popular religiosity. It is an authoritarian-irrationalism drawing based on cultural struggle (Dubiel, 1998: 15). New-Right and Neo-Conservatism concepts that are taken into consideration in general are composed of political views as reaction to developments. It should be noted that it is difficult to see New Conservatism as a perfectly consistent and fixed idea in ideological or political terms. Neo-conservatism defends values such as authority, discipline, respect and home life based on a human nature understanding that is fragile, misleading and socially addictive. By the end of the 20th Century, for the Conservatism, the tendency in favor of the market was improved by removing the tendency in favor of the state. Finally, it can be said that there is an ambiguous relation between conservatism and postmodernity.

In this study, I try to explain Turkey's conservative structure. The aim of this work is to make understandable conservative structures through the important dates in the history of Turkish modernization: the significant political, sociological, economic and social ruptures experienced in the world. These breaks have led to struggles between those who are in favor of change and those who are at a distance, as they have been throughout history. The world, and especially in terms of the problems faced by social fractures in the modernization process in Turkey is concerned. In order to solve the problems created by these breaks, experiences of different countries are exemplified and presented as possible solutions. The Turkish conservative discourse also wants to shape its own structure as an eclectic and heterogeneous field of discourse in the field of discourse, acting from this need.

Discourse and Turkish Conservatism

Turkish modernization is a process in which the parties are constantly constructing coalitions and in conflict and clashing. This process of struggle is distinct from similar ones in the West. In Turkey, maintaining dominance of conservative rhetoric results in real long-term struggle. Conservatives defend the permanence of the dominant conservative government, instead of government shaped by a secular worldview. There is concern that macro power structures and rules of the game will be determined again with another narrative. The reasons for this ongoing process of debate are severe social depression brought on by a new constitution and repeated military interventions. Threats to the existing system by coup attempts is a major obstacle to the development of a democratic management approach. Instead, there is an effort to maintain a persistent dominant discourse in addition to domination of conservative rhetoric. This has culminated in a transformation from a parliamentary to a presidential system which is to enable conservatives to maintain power. Similar sequences have resulted in unique conservative discourse construction in societies with different conservative traditions.

Three different conservative traditions provide the basic models for contemporary conservative discourse. There are important similarities and differences among these traditions: French, British, and American. Reaction to Liberal revolutions in Britain and France generated the counter-revolutionary traditions of conservative political thought. These traditions diverge both in terms of the heritage of history and role democracy/human rights as understood in Liberal thought. British conservatism is based on Burke's reconceptualization of parliamentary government and limited monarchy. In France the clash between the old regime and the forces of revolution was so extreme that liberalism could not bridge the gap—there could be no conservative tradition in post-revolutionary French Liberalism. This difference allowed for the preservation of Britain's aristocratic character during the 19th century. In France, the conservatives had to take a different path. With the monarchy excluded compromise and reforms in France focused on electoral arrangements, administrative organization and social legislation. (Beneton, 2011: 51-53).

American political conservatism with no revolution to oppose has taken a different path. America was born into the modern world that resulted from the British revolution. It did not experience a social breakdown, warring traditions or social revolution. However,

British liberal and subsequently, Burkian conservative ideas that mixed with the American experience created a new liberal conservative split in the emerging American political tradition. The 1776 Declaration of Independence and 1787 Constitution were British Whig documents based on self-government, limited government, an autonomous civil society, and competing interests. The American Revolution is radically different from the French Revolution in that it is not an ideological revolution, nor does it develop as a reaction to the old. With no conservative tradition a purely liberal idea of modernity grew America. There was no room for any of the traditionalist or anti-modern elements of European conservatism, but overtime conservative discourse was adopted and adapted to defend the purity of American liberalism which had become Americanism. That is why it is called neo-conservatism because there is no tradition that American conservatism can tolerate (Beneton, 2011: 83).

"New conservatism", "Conservative New Right" or "New Right" are among the terms used in political arena. These concepts are frequently discussed among Turkish thinkers. In Turkey, in the process of identity construction, there are many examples of the power of the discursive. Identities such as Islamic Socialism and Turk-Islam Synthesis, established by a kind of "synthesis" in formation and expression of identity in the 1980s. One of the identities synthesized by intellectuals or politicians is what has become conservatism. Hall explain that national identities are generally presented in the pure or homogenous forms but all are fictional, so that all are actually only hybrid identities. It is important to put forward the conservative orientation of identities (Hall, 1992: 54). We can use Hall's view to interpret new conservatism as an identity construction. Especially since the mid-2000s, New Conservatism identity construction has been one of the important concepts in Turkish politics.

Turkish Conservative History

In order to understand the bases of Turkish conservative thinking, it is necessary to discuss the anatomy of the dynamics of the changes and continuities that emerged from the ideas of the Ottoman era. The idea of reform in the Ottoman period was transformed into a "revolution" with the Republic. The removal of the Caliphate, "The religion of the state, Islam is removed from the constitution, relocation religion from public space, abolishing the Sultanate/monarchy by proclaiming the Republic as the legitimacy of the new state. With the republic, a new national Turkish culture that is not based on religion has been built. All institutions, rules, rituals and symbols that make reference to religion have been abolished by state. The problems brought by this liquidation constitute almost the whole of the criticism of conservative thinkers towards Turkish modernization.

The Kemalist Revolutions, which took place after the War of Independence, constituted the main axis of the revolution as a project of democracy. However, it should be immediately noted that the conservatives were not openly faced with the Kemalist Revolution. October 29, 1923 is the date of the proclamation of the Republic of Turkey. Mustafa Kemal Atatürk and his friends established the Republican regime and removed the monarchy. They made many revolutionary decisions in the parliament. They removed the caliphate. Changed Arabic alphabet to Latin alphabet, calendar,

measurement system and clothes. They preferred a modern culture. They gave women the right to be elected-in the 1930s. They preferred a secular educational approach.

All this caused reaction. Some of the society did not want to change. They preferred save their culture and did not want separation of church and state. However, Kemalist Revolutionaries insisted on secular life. Conservatives also criticized the Kemalist in this regard (Özipek, 2004: 81). Turkish conservatives appeared in this period. Two political blocs formed: secular and conservative.

The Kemalist revolution made many attempts to create a multi-party political life. Turkey established a multi-party system political life in 1946. Democrat Party won the 1950 election. This party wanted to protect religious values and began to oppose the republican people's party, which is a secular and statist. The democrat party was deposed by military intervention in 1960 as a reaction to control of the state by religion. Secularist and conservatives struggled for power.

The 1970s were marked by conflict between many political factions. On September 12, 1980, Chief of General Staff Kenan Evren, who took over the administration in the name of the Turkish Armed Forces, brought rules that give priority to the superiority of the state and restrict the rights of the individual. Turkish-Islamic thought was widespread and was opposed to the new-generation extreme leftist trends and imposed through compulsory religious lessons in school curriculum.

With the elections of 1983 and 1987, the Anavatan (Motherland) Party came to the arena of politics as a civil structure against military rule and played a crucial role in the power of Turkish-Islamic thought or in the conservative thinking process. Prime Minister Turgut Özal, who has applied neo-liberal politics for 10 years in Turkey as Reagan and Margaret Thatcher.

The 1980 Military intervention was done for left and right forces in society. The military leadership wanted to resolve conflict. At this time, Islamic groups were not involved in the conflict. It was the left and right with which the military was concerned. In addition, Islamist getting stronger. In the general elections held in 1995, the left lost power and it was shifted to the parties representing political Islam. The rise of the Islamist parties has become a reaction to the failure of the ruling parties to provide employment and economic and social benefits to the people, and a-reaction to the Refah (Welfare) Party, which has positioned itself as an Islamist party (Akşin, 2007: 295). They have been actively involved in the struggle to enter into the public sphere by effectively reaching the most disadvantaged people with the successes in local organizations. When all of these reasons are thought together, it is clear that an effective conservative section based on Islam has created eclectic and counter-hegemonic thinking to become a power. Necmettin Erbakan expressed concern about the power of the Refah Party and the changing of the regime. There is criticism that the 'Necmettin Erbakan' government is a threat to nationalism and secularism. The claim that the founding principles of the Republic of Turkey has been changed was frequently expressed at that time. Criticisms in this direction have come especially from the military.

On February 28, 1997, the National Security Council required an additional 3 years of religious and cultural education. The closure of İmam-Hatip (clerical) secondary

schools by the military was criticized by Islamic conservatives. The Refah Party was banned on February 22, 1998, because it was not secular by the decision of the Constitutional Court. Then the Refah Party, the same people established the Fazilet Party. This party was banned on 22 June 2001. The Saadet Party was established on July 20, 2001.

After 1990 Power Relations in Turkey

Conservatism, 1980 and 2000's Turkey has been effective since two important developments in the Turkish Modernization. There were two important developments in Turkey in 1990 and 2000 have been effective on the Modernization of Turkey. The first event is the 1980 military intervention. With the Anavatan (Motherland) Party coming to power, the period of partiality of civilization began. The second development is the demolition of the walls in Berlin in 1989, which is considered a major break in the political history of the world. The end of the bipolar world implies a decrease in the effectiveness of left and critical thinking in Turkish modernization. Along with these two developments, various criticisms have been brought to the left in the social sense. These critics are more than a praise for the new, the old culture is a nostalgic and longing presentation. Even fetching is meant to be blessed. The rise of militaristic oppressive aspects in the social context leads to an increase in freedom demands.

In Turkey, the social events that lead to the strengthening of conservatism can be listed as follows.

- Economic crises,
- The continuation of the institutionalized structure through education,
- Attempting to protect the cultural area with the fear of moving away from traditions in the field of culture-arts-literature,
- The desire to subvert a system that imposes its own reality in the field of law
- The desire to maintain the dominant structure by re-blending a conservative structure in the society of all these by the power.

Requests can be evaluated in two ways. First, in the Turkish modernization process, there is a positive approach towards innovations in the technical and scientific field. It has not been a direct objection to social change from Gökalp to Erol Güngör. Ziya Gökalp and Erol Güngör all most important conservative, nationalist and right thinker. Objections are being made to the areas experiencing change. But it is an accepted view that the innovations in the technical and scientific area are influencing the cultural establishment at the point reached. In other words, 2000 on changes in technical and scientific fields in Turkey is independent of the cultural field, new itself carries society with all aspects of society in its own unique nature and characteristics by bringing into line with the body converting these innovations social structure adapted to couple the opinion now in terms of conservatives an accepted view. This view suggests that society is the power that produces conservative rhetoric. Power, on the other hand, is seen as a superstructure that can be structured as a structure that can be guided by an

independent, even a modernist view, and is found in unnatural interventions in the dynamics of natural change.

In 1991, the election was lost and instead of the Anavatan Party, Doğru Yol (True Path) Party and the Sosyal Demokrat Halkçı (Social Democratic Populist Party) came to power. 1990 has been a year of fighting terrorism Turkey. Turkey towards democratization in significant obstacles have emerged this year. In the general elections held in 1995, the fall in the left was shifted to the parties representing political Islam. The rise of the Islamist parties has become a reaction to the failure of the ruling parties to find employment, to provide economic and social benefits to the people, and to the Refah (Welfare) Party, which has positioned itself as an Islamist Party (Akşin, 2007: 295). They have been actively involved in the struggle to enter into the public sphere by effectively reaching the lowest level of the people with the successes in local organizations. When all of these reasons are thought together, it is clear that an effective conservative section based on Islam has created eclectic and counter-hegemonic thinking to become a power. Necmettin Erbakan expressed concern about the power of the Refah Party and the changing of the regime. There is criticism that the 'Necmettin Erbakan' government is a threat to national and secularism. Change the claim that the founding principles of the Republic of Turkey has frequently expressed at that time. Criticisms in this direction have come especially from the soldiers. On February 28, 1997, the National Security Council proposed a proposal that obliged eight years of education and that political soldiers were included in order to protect secularism and nationality in this way. The closure of Imam-Hatip secondary schools by the soldiers has been criticized by Islamic conservatives. The closure of Imam-Hatip secondary schools by the soldiers has been criticized by Islamic conservatives. The Refah Party was closed on February 22, 1998, because it was not secular by the decision of the Constitutional Court. Upon the closure of the Refah Party, the same people established the Fazilet Party. This party was closed on 22 June 2001. The Saadet Party was established on July 20, 2001.

Conservatives won the 2002 Election

The Justice Development Party, which clearly articulated these party changes, was established (14 August 2001). Recep Tayyip Erdogan, the leader of the new party, has for the first time been a conservative democratic party. Recep Tayyip Erdogan was given a political ban because he read an Islamic poem. These two events are two developments that are effective in the construction process of conservative rhetoric.

Ecevit Government was established on 11 January 1999. Following the April 18, 1999 elections, the Democratic Left Party, the Nationalist Movement Party and the Motherland Party formed a coalition with the government. It can be argued that the army took more place in politics because of the short and unstable government. These elections ahead of Abdullah Öcalan's arrested on February 16, 1999, Turkey to be brought has been an important development. In the general elections held in 1999, the Democratic Left Party was the first party to have 22% of the vote. Until the 2002 elections, this government has undergone important developments in many respects. In this period there has been an important development in the way of the conservative thinker's domination. Merve Kavakçı to enter the parliament with the turban and to meet

with the reaction. There was a sharp debate between President Ahmet Necdet Sezer and Prime Minister Bulent Ecevit. Because of this debate, worsening progress in the economy. As a result of the political uncertainties that followed, in the elections of 3 November 2002, the Justice and Development Party and the Republican People's Party overcame the threshold and entered the parliament. The Justice and Development Party received 34% of the votes and 2/3 of the parliamentary seats. The Republican People's Party received 19% of the votes. All the other parties are out of the parliament. In these elections, reactions to the IMF, corruption claims and economic crises have been influential (Akşin, 2006: 220-235, 2007: 289-319).

The conservative thinker has to respond to these new ideas in order to protect himself. Before the religious ideas of the 1990s emerged, Turkey was an example of partial revolution (Mardin, 2013: 61). Ideas that aim to establish a new foundation for Muslims in the industrial life of the West have emerged as a reaction to the Western Industrial Society (61). Concepts such as internationalization, westernization, and modernization have been deeply influenced by Turkish thought.

The concept that Gramsci uses to explain the struggle of ideas between what he defines as the historical blocs is a useful concept in understanding the history of Turkish Thought. The attitudes of the Turks towards modernization led to conflict between two historical blocs: Islamic and Western.

In this respect, it can be said that there are two basic historical blocs that affect the cultural, economic and political aspects of Turkish political history.

One bloc is traditionalist, conservative and Islamic, based on a morality that gives the state a reactionary character with a traditional structure based on old religious and cultural heritage. Since the fall of the Ottoman Empire a modern Turkey with a progressive political tradition seeks western style social, political and economic developments, but always within the characteristic structure the old historical bloc. Religion is one of the elements of the synthesis. Conservatives who evaluate the state, society and people in the framework of religious values are opposed to a rational society as envisioned in the context of nationalist developments in Europe, the French Revolution, and human rights discourse. Another bloc, which can be called innovative or modernist, embraces the basic progressive values of innovation, development and modernism. These two blocs have emerged as political parties defining the main conflicts in Turkish political thought and generating its rhetoric. Conservatives have positioned themselves in society through rhetorical power use voting to preserve established privileges: nobility, elitism, economic structure, and property relations. Although the conservative bloc may constitute the opposition from time to time, it always maintains its dominant position in the discourse.

As a Conclusion

Conservatism as a Backlash Turkish modernization

Judging by the short history of conservatism, it is evident that the struggle of Turkish conservatism is with secularism. The main argument used in this struggle is religion. The main area of debate in the conduct of conservatives has been the religious. In order

to understand the bases of conservative thinking, it is necessary to discuss the anatomy of the dynamics of the changes and continuities that emerged from the ideas of the Ottoman era. The reforms in the Ottoman period were transformed into a "revolution" with the (emergence of the) Republic. From the end of the Turkish Empire since the Republic of Turkey was established ethnic, and cultural perspective have threatened the state structure transformation continues from old to new and has turned into an interminable struggle. The splintering and blending of ancestral structures with new resulted in the emergence of has an eclectic structure (Tezel, 2004: 23-24). The institutions of this social structure are also eclectic. This turbulent period of political life has also caused the breakdown of the paradigm in the state tradition (Tezel, 2004: 25). With removal of the Caliphate, the religion of the state, Islam is removed from the constitution, relocating religion from public space, abolishing the Sultanate by proclaiming the Republic as expression of the legitimacy of the new state. With the republic, a new national Turkish culture that is not based on religion has been built. With the separation of religion and state, all institutions, rules, rituals and symbols related to any religion particular have been abolished. The problems brought by this liquidation constitute almost the whole of the criticism of conservative thinkers towards Turkish modernization. The question of a Turkish national culture based on the Republic along with the religious sanctification made meaningful by Sunni Muslims has come to the agenda. This question is still being discussed, and particularly in 1990 and 2010 Turkish identity has been a question waiting for an answer.

The Republic's answer was the "National Spirit of Power" (Kuvvayı Milliye) and the War of Independence (Kurtuluş Savaşı) to create a transcendent state and nation. The Weberian miracle thesis, the idea that the founders of the Republic through the miracle of victory in the War of Independence had legitimized the new state, allowed them to replace religious tradition with national sovereignty which backed by rationality and effective management became the source of Republican legitimacy.

The Kemalist Revolutions, which took place after the War of Independence, constituted the main axis of the revolution as a project of democracy. However, it should be immediately noted that the conservatives were not openly faced with the Kemalist Revolution. Kazım Karabekir, who is very important soldier in War of Independence and one of the most important symbols of the liberation struggle, corresponds exactly to a conservative desire to oppose the abolition of the Caliphate (Alpkaya, 2004: 44-49). In this respect, the main objective of the new conservatives in the Republic is to isolate the public area or the state from religion. This controversy is the focus of the debate. Conservatives also criticize the Kemalist group in this regard (Özipek, 2004: 81).

The state has had two opposite paradigms about religion. This division, together with the abolition of the Caliphate, the annulment of the religion, the elimination of the Law of Unity of Education, has greatly increased the distance between the two sides. Turkey had realized multiparty democracy when the Democratic Party came to power in May 27, 1946. The 1960 military intervention was a significant break they in the democratic history of the Republic. It was, however, the September 12, 1980 military coup that finally established the two sides of the contemporary struggle for power. The struggle between the conservative sector seeking to move back to a religious state and the modernist sector advocating a secular state. The modernist group wants the state to

control religion while religious bloc wants to continue to use the regulatory power of the state to enforce its morality. The contradictions in this and many other similar issues have shaped conservative thinking. The stability and legitimacy of the Republic of Turkey depends on the ability of these political forces to cope with the contradictions of a changing Turkish national culture.

References

- Akşin, Sina, (2006). *Yakın Tarihimizi Sorgulamak*, İstanbul: Arkadaş Press.
- Akşin, Sina, (2007). *Kısa Türkiye Tarihi*, İstanbul: İş Bankası Kültür Press.
- Alpkaya, Faruk, (2004). "Kazım Karabekir", *Modern Türkiye'de Siyasi Düşünce*, (ed.) Ahmet Çiğdem, İstanbul: İletişim Press.
- Beneton, Philippe, (2011). *Muhafazakarlık*, İstanbul: İletişim Press.
- Burke, Edmund, (2006). "Ebedi Toplum", içinde *Siyasal Düşünce*, (ed) Michael Rosen ve Jonathan Wolf, Ankara: Dost Kitapevi Press.
- Dubiel, Helmut, (1998). *Yeni Muhafazakarlık Nedir?*, İstanbul: İletişim Press.
- Hall, Edward T., (1992). "Melez Şahsiyetlerimiz", *Birikim*, Vol: 45–46, İstanbul.
- Heywood, Andrew, (1998). *Political Ideologies*, Newyork: Ny: Worth.
- Mardin, Şerif, (2002). *Türk Modernleşmesi*, İstanbul: İletişim Press.
- Mardin, Şerif, (2013). *İdeoloji*, İstanbul: İletişim Press.
- Medcalf Linda ve Dolbeare, Kenneth M. (1985). *Neopolitics American Political Ideas in the 1980's*, Philadelphia: Temple University Press.
- Oakeshott, Michael, (1962). *On Being Conservative*, London: Methuen Press.
- Oakeshott, Michael, (1991). *Rationalism in Politics and Other Essays*, London: Liberty Press.
- Özipek, Bekir Berat, (2004). *Muhafazakarlık Akıl Toplum Siyaset*, Ankara: Liberte Press.
- Tezel, Yahya Sezai, (2002). *Cumhuriyet Döneminin İktisadi Tarihi*, İstanbul: Tarih Vakfı Yurt Press.
- Tezel, Yahya Sezai, (2004). "Tanzimat Sonrası İmparatorluk ve Cumhuriyet Türkiye'sinde 'Muhafazakarlık' Sorunsalı: Devamlılıklar, Değişmeler ve Kırılmalar", (in) *Modern Türkiye'de Siyasi Düşünce*, (ed.) Ahmet Çiğdem, İstanbul: İletişim Press.

The Vietnam War in Film: Course Materials for the
Fiftieth Anniversary Celebration

Jackson Berry, Graduate Teaching Assistant,
Candidate for MFA in Film
Hunter Gunderson, Undergraduate Course Builder
Rex Wirth, Professor
Central Washington University

EXPEREINCE THE VIETNAM WAR THROUGH FILM

Vietnam War in Film

As we approached the mid-point of 50th Anniversary commemoration (Memorial Day 2012 through Veterans Day 2025) established by presidential proclamation on May25, 2012, PBS aired a new ten part documentary on the war by Ken Burns which was adopted as the center piece of the third commemorative offering of the Vietnam War in Film at CWU.

For this offering of the course, the normal show list of 20+ feature films on Vietnam released over the past 50 years has been reduced to 10 movies that match up with and illustrate how the core subject matter in each episode of the PBS documentary has been portrayed in the movies at different periods over the past fifty years.

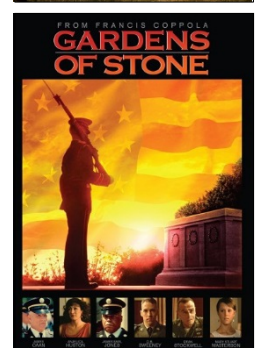
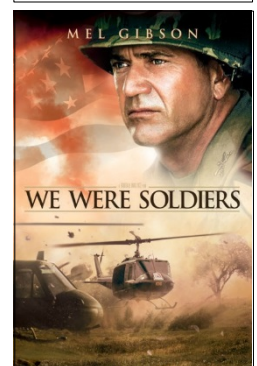
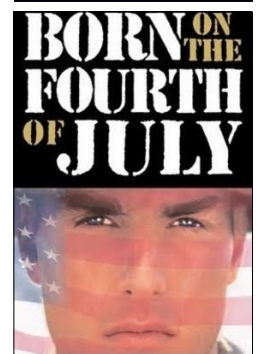
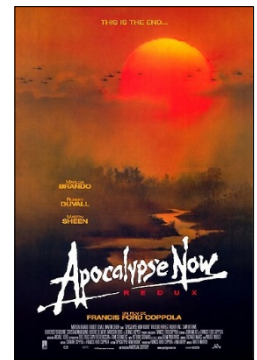
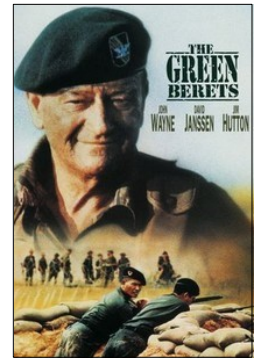
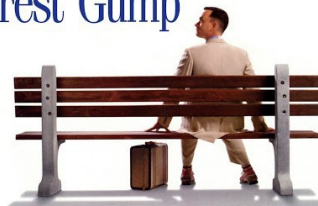
COURSE REQUIREMENTS: Watch the films, participate in a reading group (American Reckoning: The Vietnam War and Our National Identity by Christian Appy) and prepare a poster or a course trailer.

JOIN THE CELEBRATION

50th Anniversary of the Vietnam

War Commemoration

Forrest Gump



SHOW LIST: Ken Burns PBS episodes and Vietnam movies

- First Day** *Apocalypse Now Redux 69-70*
- Week 1** *Green Berets 64*
PBS1: “Déjà Vu” (1858-1961) After a century of French occupation, Vietnam emerges independent but divided.
- Week 2** *Go Tell the Spartans 64*
PBS2: “Riding the Tiger” (1961-1963) As a communist insurgency gains strength, JFK wrestles with US involvement in Vietnam.
- Week 3** *We Were Soldiers 65*
PBS3: “The River Styx” (January 1964-December 1965) With South Vietnam near collapse, LBJ bombs the North and sends US troops to the South.
- Week 4** *Platoon 67*
PBS4: “Resolve” (January 1966-June 1967) US soldiers discover Vietnam is unlike their fathers’ war, as the antiwar movement grows.
- Week 5** **PBS5:** “This Is What We Do” (July 1967-December 1967) President Johnson escalates the war while promising the public that victory is in sight.
- Week 6** *Full Metal Jacket 67-68*
PBS6: “Things Fall Apart” (January 1968-July 1968) Shaken by the Tet Offensive, assassinations and unrest, America seems to be coming apart.
- Week 7** *Hair*
PBS7: “The Veneer of Civilization” (June 1968-May 1969) After chaos roils the Democratic Convention, Nixon, promising peace, wins the presidency.
- Week 8** *Gardens of Stone*
PBS8: “The History of the World” (April 1969-May 1970) Nixon withdraws troops but upon sending forces to Cambodia the antiwar movement reignites.
- Week 9** *Deer Hunter 67-70*
PBS9: “A Disrespectful Loyalty” (May 1970-March 1973) South Vietnam fights alone as Nixon and Kissinger find a way out for America. POWs return.
- Week 10** *In Country*
PBS10: “The Weight of Memory” (March 1973-Onward) Saigon falls and the war ends. Americans & Vietnamese from all sides seek reconciliation.
- Final Session** *Forest Gump*

Options for semester courses.

Good Morning Vietnam, Uncommon Valor, Rambo, Hanoi Hilton, Jacob’s Ladder, Casualties of War, Rescue Dawn, Tropic Thunder, Hearts and Minds, A bright Shining Lie, The Fog of War

Vietnam War in Film

WAR TIME



1968



1974



1979

Three years after the Fall of Saigon Hollywood finally came out with the first wave of feature films reflecting the public trauma. Instead of the thrill of victory in the WWII tradition that John Wayne brought back in 1968, we saw the agony of defeat: recriminations and rationalization.

1970's



1978



1978



1978



1979

Getting to the heart of it: Tet in context. This is where the documentary really “sings”.

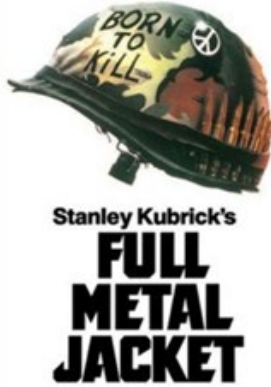
1980's



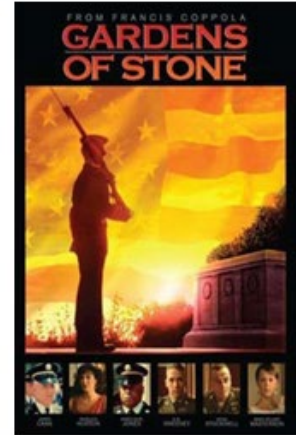
1986



1987



1987



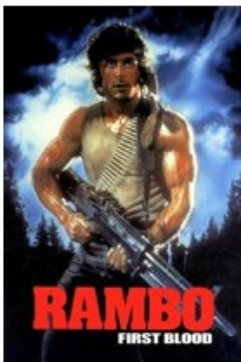
1987

Rambo, Reagan and Red Dawn the crucible of revision; victory and the new exceptionalism. He made America great again. This is a whole separate show. It is the center piece of the old course without the PBS documentary, in a quarter course, there is no room. Anyone teaching on semesters can have a lot of fun here.

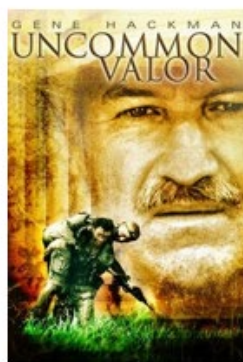
1980's



1984



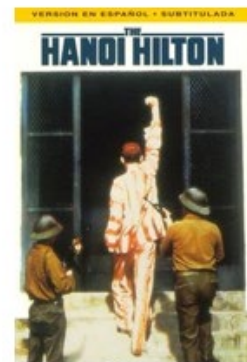
1982



1983



1987

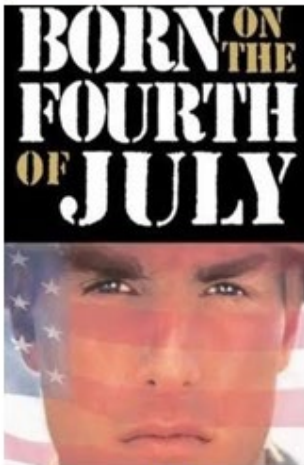


1987

1980's-1990's



1982



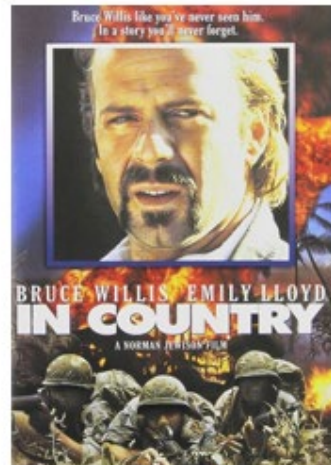
1989



1990



1990



1989

Re-do/revision Coming Home and Born on the Fourth of July, Garden and In Country. Coming to grips with the Wall.

1990's



1993

Forrest Gump



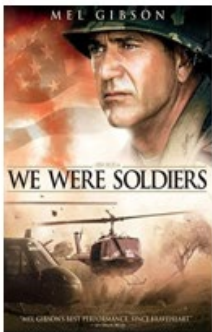
1994



1998

Life is like a box of chocolates; the whole war and the new America punctuated by some real dark stuff that few watched.

2000's



2002



2003



2004



2006



2008

Back to the beginning, Mel Gibson in the i drang valley. Soldiers and heroes: the new exceptionalism. Our troops! What counted with the GI's was what they did—John Wayne. With the troops it's why they do it. No more Vietnams? The rest is picking up the pieces and tying up the loose ends. Have they said it all or will the fiftieth anniversary celebration bring new understandings and add to the show list?

The Use of Empirical Evidence and “Craft Knowledge”
in Principal Preparation Programs

Joseph Hunter
Western Washington University

This study examines the concepts of “empirical evidence” and “craft knowledge,” and how they epistemologically guide university professors leading principal preparation programs (PPPs). First, functional definitions for supporting terms, and then “empirical evidence” and “craft knowledge” are articulated within the context of K-12 public school administration. Second, after defining the terms, the study examines the professional publishing and reading habits of professors of educational administration. By clarifying the concepts of empirical evidence and craft knowledge, and examining the publication and reading habits, the study seeks to answer the following question:

What do professors in educational administration use to guide their thinking and actions?

The study concludes by drawing connections between this study and recent research on exemplary PPPs.

Definitions

In exploring the core question (What do professors in educational administration used to guide their thinking and actions?), a key concept that continued to emerge from the literature was related to the ideas of espouse theory and theory-in-use (Argyris, & Schön, 1974). Much of the literature related to theory and practice references espouse theory and theory-in-use, encompassing teacher education, and principal preparation programs. Espouse theory can be simply described as what we say we believe. Theory-in-use, in contrast, is what we *actually* do. These two concepts relate that at times people say they believe one thing, but can unconsciously behave in a different way.

Embedded in espouse theory and theory-in-use is the core concept of “theory.” Theory, broadly defined, is “a plausible or scientifically accepted general principle or body of principles offered to explain phenomena” Merriam Webster (n.d.). Therefore, we see that theory technically undergirds mental constructs intended to guide our actions. In education, it is those constructs--or the “theory”--that guide us in making professional decisions and judgments. Theory development, guided by broadly accepted research paradigms, emerges from empirical evidence that elucidate individual or small group experience, and attempts to examine, describe and explain behavior and concepts that are generalizable (Gall, Gall, & Borg 2007).

With these background terms briefly explained, we will take a deeper look at empirical evidence and compare it to the idea of craft knowledge in educational administration.

Empirical Evidence and Craft Knowledge

What exactly is empirical evidence and craft knowledge? The concept of empirical *evidence* is part of empirical *research*, which emerged from the scientific process of observation, inductive reasoning, testing, evaluation, and generalization (Gall, Gall, & Borg, 2007). A simple definition of empirical *research* is “research using empirical evidence. It is a way of gaining knowledge by means of direct and indirect observation or experience” (Wikipedia, n.d.). The definition of empirical *evidence*, by extension, is “the record of one’s direct observations or experiences which can be

analyzed quantitatively or qualitatively” (Wikipedia, n.d.). In common parlance, then, empirical evidence is simply:

The inductive and deductive particulars documented through the observation, testing and evaluation process, in the pursuit of theory building or confirmation.

To build theory, researchers often use the “Grounded” theory approach; you analyze observable data through a process of constantly gathering, comparing, and analyzing the data against itself (Strauss & Corbin, 1998). This leads to a “grounded theory” that is grounded, or based, on the empirical evidence. Bush, & Glover (2014) assert, “understanding theory provides a guide to leadership practice for principals and other leaders. It widens horizons and avoids drawing only on the inevitably limited individual or collective experience of any school’s leaders” (p. 565). They are suggesting that the purpose behind empirical research, and by extension, theory, is to develop guidelines for effective practice. Within Bush and Glover’s comments, they note that theory helps practitioners develop an understanding of effective practice that is broader than individual experiences. Following that line of thinking the present study’s author explored the concept of individual and collective experience in the literature, and constantly encountered the term “craft knowledge” used to represent individual and/or collective experience, and the knowledge contained in that experience.

Grimmett, & MacKinnon (1992) define craft knowledge as “a particular form of morally appropriate intelligent and sensible know-how that is constructed by teachers...in the context of their lived experiences and workaround issues of content related and learner focused pedagogy” (p. 396). Craft knowledge related to teacher practice is well documented. However, using the search terms “craft knowledge,” “educational leadership,” “principal preparation,” and various derivatives of those terms, a broad search revealed that craft knowledge is not well researched or understood in the educational administration literature. Therefore, this study’s functional definition of craft knowledge in educational administration draws upon research from teacher education and defines craft knowledge as:

A person’s contextual and functional know-how, based on personal experience in their local and unique work environment.

In summary, the two figures below represent the concepts of empirical evidence (Fig. 1) and craft knowledge (Fig. 2). The key difference is that empirical evidence is based on a rigorous process of observation that is aimed at creating generalizable principles (or theory) that apply across broad populations. In contrast, craft knowledge is based on a *less formal* process that is centered on *an individual’s experience* and is not *necessarily* generalizable across populations, other than that individual’s location, or a closely matched comparison.

[Figure 1]

[Figure 2]

Using these as working definitions, we now look at the publishing and reading habits of professors in university PPPs.

Publishing and Reading Habits

This study has an underlying assumption: professional reading and scholarly work/preparation undergirds an instructor's teaching practices. The assumption applies to all educators, but this author suggests that the assumption should apply most rigorously to university professors. With this assumption guiding the reasoning behind the study, the author sought to identify the major journals in the field of educational administration. By looking at the major journals, and exploring where professors of educational administration publish, and which journals they read most often, we can make some judgments about the knowledge base that professors use to make decisions related to instructional content.

In their study, Wang, & Bowers (2016) analyzed the 30 major journals in the field of educational administration, seeking to identify which journals were most cited in *research published by* professors of educational administration. Although their purpose was to rank order the journals most often cited, the present study seeks to make judgments about how professors inform their thinking. It seems reasonable to posit that when professors cite major educational administration journals, it indicates that they value the content therein. Following that reasoning, the present study suggests that if professors are citing these journals, it indicates that these journals represent the place where significant portions of their professional ideologies originate, solidify, and/or are revealed. With this in mind, we see that Wang and Bowers' study identify the following as the top 10 journals that educational administration professors cite in their own published works:

1. *Educational Administration Quarterly*
2. *American Educational Research Journal*
3. *Educational Evaluation and Policy Analysis*
4. *Educational Researcher*
5. *Teachers College Record*
6. *Review of Educational Research*
7. *Journal of Educational Administration*
8. *Educational Leadership*
9. *Phi Delta Kappa*
10. *School Leadership and Management*

In a study by Richardson, & McLeod (2009), they suggest that if the purpose of research is knowledge creation and dissemination, then professors of educational administration should seek to publish in the top journals for the field, which *include Educational Administration Quarterly* in the top spot in both Wang, & Bowers' (2016) and Richardson, & McLeod's studies. Additionally, in both studies *Educational Evaluation and Policy Analysis*, and *Educational Research* were ranked in the top 5. For scholars working in the field of educational administration, the top seven journals listed in Wang, & Bowers' research are not surprising. The top seven are all well respected peer-reviewed journals. For the present study, however, it is informative to

note that journals number eight, *Educational Leadership*, and nine, *Phi Delta Kappan* are not peer-reviewed journals. This does not necessarily mean that these two publications do not present any content that is peer-reviewed; however, it is critical to note that these two journals are not peer-reviewed journals. This means that the content included has not gone through a peer-review process. They may include articles or opinion pieces that *cite work* from peer-reviewed journals, but the requirements for being published in *Educational Leadership* and *Phi Delta Kappan*, do not include a peer-review process. The author of this present study suggests that the fact that they are not peer reviewed journals may be one of the reasons they are not in the top positions as cited sources for educational administration professors' own published work.

One wonders, then, if educational administration professors *cite* those journals, giving them professional credence, do they most often *read* those same journals? Richardson, & McLeod (2009), suggest that professors of educational administration read the following rank-ordered journals, based on their journal citation analysis.

1. *Educational Administration Quarterly*
2. *Journal School Leadership*
3. *Phi Delta Kappan*
4. *Educational Evaluation and Policy Analysis*
5. *Educational Researcher*
6. *Educational Leadership*
7. *Journal of Educational Administration*
8. *American Educational Research Journal*
9. *Journal of Applied Psychology*
10. *Teachers College Record*

It is not surprising to see *Educational Administration* quarterly at the top of this list, and one would expect that *Educational Evaluation and Policy Analysis* to be in the top five as well. As revealed in the Wang, & Bowers (2016) study, these are well-respected peer-reviewed journals. What is surprising, however, is to see the journals that hold position three and six; *Phi Delta Kappan* holds the third spot, and *Educational Leadership* holds the sixth spot. As noted earlier, neither of these are peer-reviewed journals. This shows that while two-thirds of the professional reading by educational administration professors is from peer-reviewed journals, one-third of the top six journals read by these professors represent content that would be broadly categorized as "craft knowledge."

Richardson, & McLeod (2009) offer the following observation:

The primary goal of publication is to have others in the field read, critique, and build on one's work. To avoid having research exist in silos, it is vital that researchers' methodology, findings, results, and conclusions be used to expand the body of knowledge of the field. The chance of one's scholarly work contributing to the body of knowledge in educational leadership increases significantly if it is published in EAQ, JSL, or a small handful of other journals. (pp. 638-639)

Although educational administration programs primarily focus on helping veteran teachers meet the qualifications for state certification as school leaders, university professors are expected to do more than just teach; most professors in the field of education are expected to fulfill duties that include service and scholarship, in addition to teaching. The goal of scholarship in educational administration, as posed by Richardson, & McLeod above, is the development and dissemination of knowledge about the discipline. Richardson, & MacLeod's comments are particularly germane to this current study's core question: What do university professors use to guide their thinking and actions?

Findings

If both Richardson, & McLeod's (2009), and Wang, & Bowers' (2016) research accurately represent professors' behavior, why do we see the two non-peer-reviewed journals (*Educational Leadership* and *Phi Delta Kappan*) so highly positioned? Bush, & Glover (2014), at least in part, provide an answer:

Theory is one of the four essential building blocks of school leadership. Alongside policy, research and practice, it provides helpful insights into how schools are led and managed. The theory of leadership is important for two main reasons. First, it provides a way of understanding and interpreting the actions of leaders. The models...provide lenses to view and comprehend the ways in which leadership is enacted in schools. Second, understanding theory provides a guide to leadership practice for principals and other leaders. It widens horizons and avoids drawing only on the inevitably limited individual or collective experience of any school's leaders. (pp. 564-565)

Bush, & Glover highlight that theory guides action. As noted earlier, theory-in-use represents the actual practice of an individual. Actual practice (at least in its ideal form) represents craft knowledge if we use the definitions established earlier. Bush and Glover essentially pose that school principals use a combination of theory and practice. We know that at times, there is a perceived theory-practice discrepancy, but it does not follow that this is necessarily true all the time. Some research indicates that often professors of educational administration rely on their personal theoretical knowledge more than craft-based practices contributing to this perceived and/or real "theory-practice gap" (Murphy, 1995, p. 69). It appears that the Richardson, & McLeod, and Wang, & Bower research may suggest that part of educational administration professors' thinking (either consciously or unconsciously), is that they need to understand both the theoretical *and* the craft knowledge that principals in the field actually use. It appears that at least some of that understanding comes from their ongoing professional development in reading both peer-reviewed journals that highlight theory, and non-peer-reviewed journals that highlight craft practice.

The use of craft knowledge in educational administration is not well understood theoretically, and there is a dearth of peer-reviewed research available concerning its use by principals or by professors leading PPPs. Nevertheless, the literature does acknowledge that craft knowledge is embedded in both the professorate and in school administrators' theory-in-use. Evidence from recent research (Darling-Hammond, Meyerson, La Pointe, & Orr, 2010; Brown, 2016) indicates that the most exemplary PPPs have key elements in common. Brown summarizes recent research on

exemplary practices in educational leadership preparation programs, identifying the following common elements corroborated by multiple researchers:

- a) **research-based content** that clearly focuses on instruction, change management, and organizational practice,
- b) **coherent curriculum that links all aspects of preparation experience** around a set of shared values, beliefs and knowledge about effective organizational practice,
- c) **rigorous selection process** that gives priority to underserved groups, particularly racial/ethnic minorities,
- d) **cohort structures** that foster collaborative learning and support,
- e) **school-university collaborations** that create a seamless and coherent program for students,
- f) **field-based internships** that allow individuals to apply their new knowledge and skills while under the guidance of expert leaders,
- g) **supportive organizational structures** that support student retention, engagement, and placement,
- h) **systematic process for evaluating and improving** programs and coursework,
- i) low student to **faculty ratio (i.e. 20-1)**, and active, student-centered instruction,
- j) faculty members who make significant efforts to identify, develop, and promote relevant knowledge **focused on essential problems of schooling, leadership and administrative practice**, and
- k) **on-going professional growth opportunities** (Darling-Hammond, et al., 2007; Jackson and Kelly, 2002; Levine, 2006; Orr, 2007). (pp. 104-105. Emphasis in the original.)

Looking closely at this list of exemplary practices, one notices that it includes a combination of theoretical, craft, managerial and organizational development practices from both research-based and field-based knowledge sources.

Conclusions

The current study sought to answer the following question: What do professors in educational administration use to guide their thinking and actions? The evidence reviewed reveals that educational administration professors value and use both empirical research/evidence, and craft knowledge. They use peer-reviewed journals in their professional reading and publishing, but they also give attention to non-peer-reviewed professional literature that focuses on craft knowledge. This author suggests that professors use journals like *Educational Leadership* and *Phi Delta Kappan*--that focus on the distribution of craft knowledge--as a way to stay connected to field-based practice, thus balancing the use of both theory and practice in training future school administrators. A new question arises as we conclude this exploration: Do these professors use theory or do they use practice as the primary knowledge base in training future administrators? In some ways, this may be like asking, "Which came first, the chicken or the egg?"

In closing, this author suggests that future studies should examine educational administration professors' prioritization of both their theoretical and their craft knowledge in choosing course content and mentoring activities for training future school leaders. This might help clarify priority levels professors assign to theory and craft knowledge. Additionally, a better understanding of how school principals use both theory and craft knowledge in their daily practice would help round out our understanding of these connections and help us better prepare future school leaders.

References

- Argyris, C., & Schön, D. (1974). *Theory in practice: increasing professional effectiveness*. San Francisco: Jossey-Bass Publishers.
- Brown, K.M. (2016). Racing to the top to prepare turnaround principals in North Carolina: Homegrown regional leadership academies. In *CAPEA Educational Leadership and Administration: Teaching and Program Development Volume 27*, March 2016, pp. 99-140.
- Bush, T. & Glover, G. (2014). School leadership models: What do we know? *School Leadership and Management*, 34:5, 553-571.
DOI: 10.1080/13632434.2014.928680
- Darling-Hammond, L., Meyerson, D., La Pointe, M., & Orr, M.T. (2010). *Preparing principals for a changing world: Lessons from effective school leadership programs*. San Francisco: Jossey_Bass.
- Gall, M.D., Gall, J.P., & Borg, W.R. (2007). *Educational research: An introduction*. New York: Pearson.
- Glaser, B. (1965). The constant comparative method of qualitative analysis. *Social Problems*, 12(4), 445, 436.
- Grimmett P.P, & MacKinnon, A.M. (1992). Craft knowledge and the education of teachers. *Review of Research in Education*. Vol. 18, 385-456.
- Kolb, D. A. (1984). *Experiential learning: Experience as the source of learning and development*. Englewood Cliffs, N.J: Prentice-Hall.
- Merriam-Webster (n.d.) Retrieved, March 2016 from <https://www.merriam-webster.com/dictionary/theory>
- Murphy, J. (1995). The knowledge base in school administration: Historical footings and emerging trends. In Donmoyer, R., Imber, M., & Scheurich, J.J. (Eds.). (1995). *The knowledge base in educational administration: Multiple perspectives*. Albany, N.Y.: State University of New York Press.
- Strauss, A., & Corbin, J. (1998). *Basics of qualitative research: techniques and procedures for developing grounded theory* (2nd ed.). Los Angeles: Sage.
- Wikipedia (n.d.). Empirical research. Retrieved from https://en.wikipedia.org/wiki/Empirical_research
- Wikipedia (n.d.). Empirical evidence. Retrieved from https://en.wikipedia.org/wiki/Empirical_research

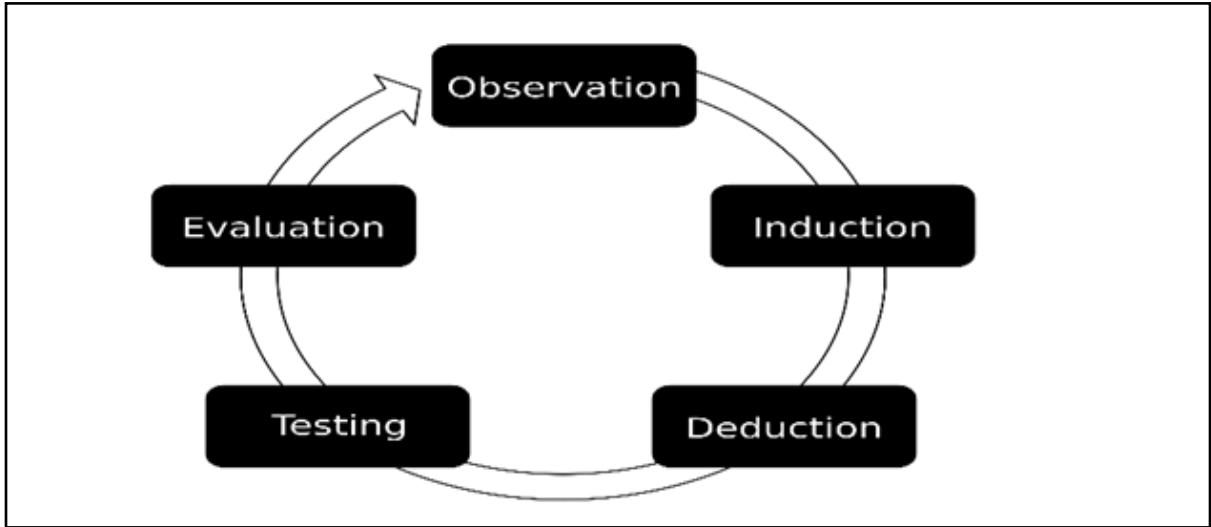


Figure 1. Based on Gall, Gall, & Borg (2010). Empirical evidence and research is a formal process intended to generalize principles, or “theory.”

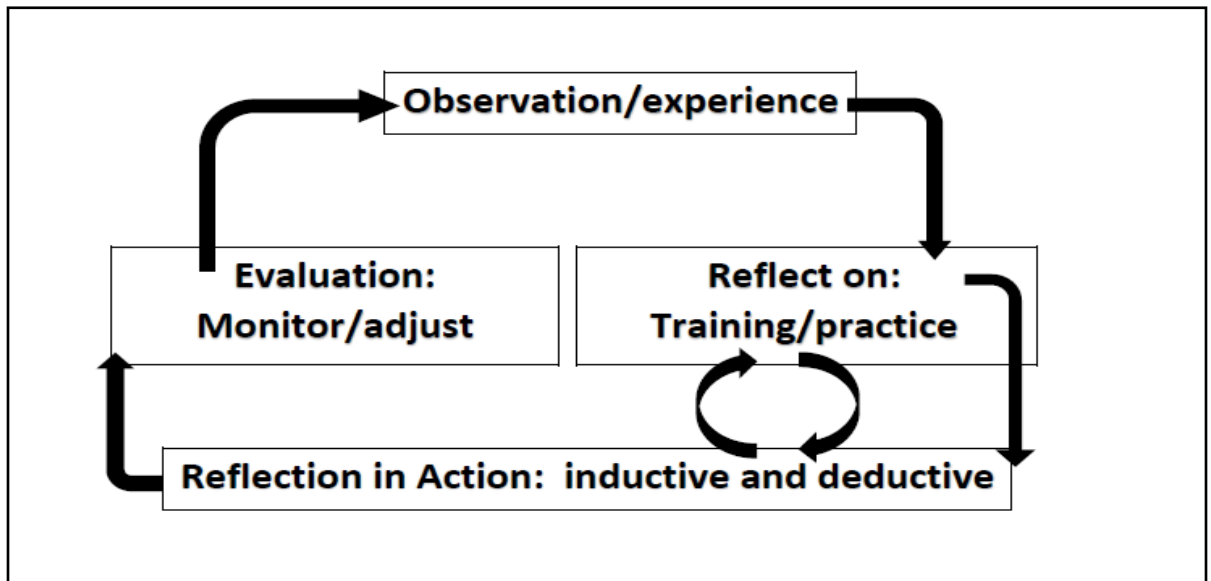


Figure 2. Based on Argyris, & Shone (1994); Kolb (1984). Craft knowledge: informal process intended to inform personal practice.

A Historical Perspective on the Literature:
Best Practice for Principal Preparation

Joseph Hunter
Western Washington University

This literature review examines both empirical research and literature from other non-peer-reviewed sources--referred to as “craft knowledge”--in educational administration, documenting how views of best practice have changed historically, and what current literature suggests. Drawing upon a study by Hunter (2018), functional definitions for “empirical evidence” and “craft knowledge” are presented, then a definition for “best practice” in educational leadership is posed. Second, the study examines what English (2002) labels as the “Point of Scientificity” (POS) (p.109) for the field of educational administration. Third, the review summarizes the findings in recent research about what university leaders of principal preparation programs (PPPs) should do in structuring training. The core question addressed in this exploration is:

What do PPP professors view as “best practice” and has this view changed over time?

The review concludes by using English’s (2002) idea of POS to discuss whether or not educational administration, as a field, has a clear research/knowledge base from which to pull best practice that broadly applies to training public school leaders.

Definitions

In another study (Hunter, 2018) suggests definitions for empirical evidence and craft knowledge. The work from that study provides a canvas from which to look at the current study’s key question on best practice. Without defining these terms, it is very difficult to sort through the mountain of evidence presented by both peer-reviewed research, and less formal publications that focus on school leadership craft knowledge. In this paper we first look at empirical evidence and compare it to the idea of craft knowledge in educational administration. By defining empirical evidence and craft knowledge, discussing how they are related to leadership in public schools, and how professors of educational administration translate that into training programs, a definition for “best practice” is developed for the purpose of this study.

Empirical Evidence and Craft Knowledge

Empirical *evidence* is contained within scholarly empirical *research*. Formal empirical research relies on the well-known scientific process of observation, inductive reasoning, testing, evaluation, and generalization (Gall, Gall, & Borg, 2007). Empirical evidence was simply defined by Hunter (2018) as:

The inductive and deductive particulars documented through the observation, testing and evaluation process, in the pursuit of theory building or confirmation.

In contrast, craft knowledge is generally understood to be the result of the constructivist, person-centered, inductive and *deductive* meaning making of an individual. Building on Grimmett and MacKinnon’s (1992) explanation, Hunter (2018) proposed the following working definition for craft knowledge in the area of educational administration:

A person's contextual and functional know-how, based on personal experience in their local and unique work environment.

Below, empirical evidence/research (Fig. 1), and craft knowledge (Fig. 2) are presented figuratively. These highlight that empirical evidence finds its core rooted in the *more formal* scientific process, aiming to create generalizable knowledge that applies across broad populations. Figure 2 highlights the *less formal* process in developing craft knowledge that centers on *an individual's experience* and is not *necessarily* generalizable across populations other than that individual's situation, or a closely matched comparison.

[Figure 1]

[Figure 2]

Best Practice

In completing a search of the literature, it is difficult to identify a universally agreed upon definition, or a cataloging of exactly what best practice is in educational administration. There is significant agreement, however, that the field of educational administration is wide-ranging, drawing upon many other academic disciplines, attempting to develop guidelines and recommendations for leadership practices (Thompson, 2017; Wang, & Bowers, 2015). If one uses the search terms best practice, educational administration, K-12 leadership, principals, or various combinations and synonyms for these terms, broadly accepted evidence is sparse for best practice in educational administration preparation programs. In the last few years there have been summative works on exemplary strategies in conducting educational administration training (Darling-Hammond, Meyerson, La Pointe, & Orr, 2010; Brown, 2016), but these works do not provide the level of detail that would represent a repository for all the specific knowledge and abilities that individual principals should master as “best practice.” Even with the lack of agreement in the field of educational administration, both currently, and historically, we need a working definition for this study. Therefore, we start by turning to a common dictionary.

Marion-Webster provides a simple definition for “best practice” as, “A procedure that has been shown by research and experience to produce optimal results and that is established or proposed as a standard suitable for widespread adoption” (n.d.). Using this definition, and looking at the field of education, one can find various suggestions about best practice in teaching easily. When exploring school leadership literature, however, there is not the same level of certainty about what is “best” practice. One of the reasons can be seen in this deeper discussion of best practice in policy development:

Determining best practices to address a particular policy problem is a commonly used but little understood tool of analysis because the concept is vague and should therefore be examined with caution. Vagueness stems from the term "best" which is subjective.

While some research and evidence must go into determining a practice the "best", it is more helpful to simply determine if a practice has worked exceptionally well and why. Instead of it being "the best", a practice might simply be a smart practice, a good practice, or a promising practice. This allows for a mix and match approach for making recommendations that might encompass pieces of many good practices. (Wikipedia, n.d.)

In teaching, and in leadership literature, there is a plethora of claims that particular strategies or systems represent best practice. Some of this is framed as "what works" in education (Marzano, Marzano, and Pickering, 2003; Marzano, Waters, and McNulty, 2005). However, looking broadly at the field of education, there is generally agreement that what is "best" or "works", is contextual. This understanding of context is so broadly understood, that is not unusual to hear teachers, principals, or superintendents discuss the idea of best practice in a way that indicates that there are many good practices that can apply to an individual situation, and that there is no universally agreed-upon best practice in all situations. To test this, simply engage a group of educators in a discussion of what is best in their unique contexts, and then compare that discussion to all the different suggestions of best practice in the literature. This is especially true in educational leadership. There is no common, definitive definition of best practice in educational administration.

Expanding the search broadly, one can find robust definitions and procedures for establishing best practices in the hard sciences, like medicine. For example, under the term "knowledge translation" there is significant information about how best practice is established in the medical field (Curran, Grimshaw, Hayden, & Campbell, 2011). Curran et al. (2011) describe knowledge translation (KT) as, "the process of moving from what has been learned through research to application in different decision-making contexts" (p. 174). Additional explanations of the establishment of best practice (or in their terms, KT) detail that:

Our process encompasses the following steps: (1) identify current, high-quality clinical practice guidelines (CPGs) and extract recommendations; (2) select strong recommendations in key clinical management areas; (3) update evidence and create evidence overviews; (4) discuss evidence and produce agreed 'evidence statements'; (5) discuss the relevance of the evidence with local stakeholders; and (6) develop locally applicable actionable best practice recommendations, suitable for use as the basis of quality indicators. (Bosch, Tavender, Bragge, Gruen, & Green, 2012, p. 763)

There is nothing commonly accepted in the field of educational administration that rises to this level of rigor. What might account for this reality? To address this, at least in part, we take a look at the historical development of the field of educational administration.

Point of Scientificity

English (2002) discusses the genesis and institutionalization of the field of educational administration, explaining that university programs and professorates in educational administration were established in the early 1900s. English suggests that in

an attempt to legitimize the field at the university level, professors in this new discipline framed the academic and political discussions, and course work, using the popular and well-regarded path of Taylorism. During the early 1900s, Taylorism embodied the use of the scientific process, as seen in early manufacturing practices like the use of the assembly line by Ford in the beginning years of the automobile industry. Borrowing from the framework and language of Taylorism, professors from the first university educational administration programs crafted course work, school systems, and research projects within the paradigm of the scientific process represented by Taylorism. These early efforts at the university level were attempts to establish the field of education as a science.

English argues that these new programs attempted to legitimize their existence by framing the discipline as a science, explaining that, “The distinction between science and non-science creates the borders between a field and a non-field. Any claim that such borders do not constitute universality, immediately raises questions concerning the entire enterprise” (p. 110). English introduces the idea of a “Point of Scientificity” by defining the terms as:

The point of scientificity, or *pos*, represents a place in history where educational administration was founded as a science. A *pos* creates a field of memory and a field of studies. A *pos* is epistemologically sustained in its claim for scientific status by a line of demarcation or *lod*. A *lod* is supported by truth claims based on various forms of correspondence. (p. 109)

The core of English’s article is that the evidence “has shown to contain serious flaws when compared to the actual history of scientific discoveries, [so] the entire project of a distinct and unitary field known as educational administration is seriously cast into doubt” (p.109). Essentially, English argues that educational administration as a “field” of study, with clearly established empirical evidence constituting the foundational base of understanding that is applicable to practice, does not exist. More recently, Thomson (2017), echoes some of English’s thinking when writing about research in educational administration, noting that, “The methods used to establish ‘truth’, as well as the very possibility of truth, are the focus of some debate” (p. 4). Her criticism of how educational administration traffics in knowledge is very poignant:

Knowledge production via a journal is not a simple process – it is rather the result of the combined strategies of various actors (playing the journal game). Writers choose a particular journal on the basis of what it has already published, reviewers make judgements based on their own positioning and what they understand of the journal, the editor and editorial board can steer what is published through editorials, the declaration of particular types of papers it would like to receive, and through special issues. What ends up being published produces and reproduces a dominant journal genre. (p.5)

This control, arbitration, and sanctioning of what is distributed as disciplinary “knowledge” is what causes English to question whether educational administration should be called a clear scientific field of knowledge.

Acknowledging that there are significant questions about universally accepted truths, or best practice in educational administration, it may be some time before we can identify, parallel to what is done in the field of medicine, a catalog of best practices in educational administration. Maybe it is better in this field to do as suggested in the

Wikipedia definition above, and talk about smart, good, or promising practices. Following that line, we now look at recent research that suggests what exemplary educational administration programs do in training future principals.

Exemplary Practices or Models to Maintain the Status-Quo?

Although it is difficult to define best practice in educational administration, we see some coalescing of thinking, and general agreement about PPPs that are exemplary. Evidence from recent research (Darling-Hammond et al., 2010; Brown, 2016) summarize what “exemplary” PPPs do in their university programs that lead to certification of school leaders. Even in this research, you see a combination of less formal craft knowledge combined with research-based practices drawn from educational, managerial and organizational sources. Nevertheless, it does provide unifying themes. Brown (2016) summarizes the research on exemplary practices that educational administration program leaders should use in training future leaders. She poses that university leaders should structure their programs so that they contain the following:

- a) **research-based content** that clearly focuses on instruction, change management, and organizational practice,
- b) **coherent curriculum that links all aspects of preparation experience** around a set of shared values, beliefs and knowledge about effective organizational practice,
- c) **rigorous selection process** that gives priority to underserved groups, particularly racial/ethnic minorities,
- d) **cohort structures** that foster collaborative learning and support,
- e) **school-university collaborations** that create a seamless and coherent program for students,
- f) **field-based internships** that allow individuals to apply their new knowledge and skills while under the guidance of expert leaders,
- g) **supportive organizational structures** that support student retention, engagement, and placement,
- h) **systematic process for evaluating and improving** programs and coursework,
- i) low student to **faculty ratio (i.e. 20-1)**, and active, student-centered instruction,
- j) faculty members who make significant efforts to identify, develop, and promote relevant knowledge **focused on essential problems of schooling, leadership and administrative practice**, and
- k) **on-going professional growth opportunities** (Darling-Hammond, et al., 2007; Jackson and Kelly, 2002; Levine, 2006; Orr, 2007). (pp. 104-105. Emphasis in the original.)

Conclusions

The views of English (2002) and Thompson (2017) may represent the most accurate description of the field of educational administration, even if they are not widely

recognized or acted upon by university professors or researchers in the field. However, those who are charged with training future leaders must discharge their duties with the functional knowledge that they possess. Unfortunately, it may also be true, as Thompson suggests, that an instructor's "Methods are productive of subjectivities and social realities. They construct particular views of the world" (p. 227). In essence, Thompson argues that by tightly controlling what constitutes research, what is published, and therefore, what is considered the knowledge base, agents in the field of educational leadership predetermine leadership behavior for the future. The subtext of both English's and Thompson's work is that principal preparation programs replicate what is already in the field; it is very difficult to explore new knowledge creation when those who are in charge lock themselves, and those who they are training, in the same empty gray-walled room that they, and those came decades before them, live in.

As a functional, actionable database, the current recommendations about the elements of exemplary principal preparation programs (Brown, 2016; Darling-Hammond, et al., 2010) may be the "best" that we have. Or, as discussed earlier in this article, maybe they are just promising practices. That remains to be seen. However, in the meantime, future research should explore how educational administration can solidify the knowledge base in the field by identifying a unified process that guides the development of evidence-based best practice that is generalizable. No, we are not the field of medicine, but we certainly can learn a few things from them.

Ultimately, the question that we began with (What do PPP professors view as "best practice" and has this view changed over time?) is answered in part by saying there is no universally agreed-upon best practice in the field nor is there a universal system for researching, testing, reviewing, and cataloging best practice as in many hard sciences. This is as true now as in the past. Leaders may *use* the language of best practice, but the literature notes that it is probably better framed as a promising practice, a good practice, or a traditional practice that they hope to replicate. Until educational leaders are unified on how to define and establish "best", we are left to use summary suggestions like those above as the "best" we have at the time.

References

- Argyris, C., & Schön, D. (1974). *Theory in practice: increasing professional effectiveness*. San Francisco: Jossey-Bass Publishers.
- Bosch, M., Tavender, E., Bragge, P., Gruen, R., & Green, S. (2012). How to define 'best practice' for use in knowledge translation research: A practical, stepped and interactive process. *Journal of Evaluation in Clinical Practice*. N.J.: John Wiley & Sons.
- Brown, K.M. (2016). Racing to the top to prepare turnaround principals in North Carolina: Homegrown regional leadership academies. In *CAPEA Educational Leadership and Administration: Teaching and Program Development Volume 27*, March 2016, pp. 99-140.
- Curran, J.A., Grimshaw, J.M., Hayden, J.A., & Campbell, B. (2011). Knowledge translation research: The science of moving research into policy and practice. *Journal of Continuing Education in the Health Professions*, 31(3): 174-180.
- Darling-Hammond, L., Meyerson, D., La Pointe, M., & Orr, M.T. (2010). *Preparing principals for a changing world: Lessons from effective school leadership programs*. San Francisco: Jossey_Bass.
- Gall, M.D., Gall, J.P., & Borg, W.R. (2007). *Educational research: An introduction*. New York: Pearson.
- Grimmett P.P, & MacKinnon, A.M. (1992). Craft knowledge and the education of teachers. *Review of Research in Education*. Vol. 18, 385-456.
- Hunter, J. (2018). The Use of Empirical Evidence and "Craft Knowledge" in Principal Preparation Programs. *National Social Science Proceedings*. Las Vegas National Technology and Social Science Conference, March 25-27, 2018.
- Kolb, D. A. (1984). *Experiential learning: Experience as the source of learning and development*. Englewood Cliffs, N.J: Prentice-Hall.
- Marzano, R.J., Marzano, J.S., & Pickering, D.J. (2003). *Classroom management that works: Research-based strategies for every teacher*. Alexandria, VA: Associations of Supervision and Curriculum Development.
- Marzano, R.J., Waters, T., & McNulty, B.A. (2005). *School leadership that works: From research to results*. Alexandria, VA: Associations of Supervision and Curriculum Development.
- Merriam-Webster, n.d. Retrieved, March 2016 from <https://www.merriam-webster.com/dictionary/best%20practice>
- Thompson, P. (2017). A little more madness in our methods? A snapshot of how the educational leadership, management and administration field conducts research. *Journal of Educational Administration and History*, 49:3, 215-230.
- Wikipedia (n.d.). Best practice. Retrieved from https://en.wikipedia.org/wiki/Best_practice

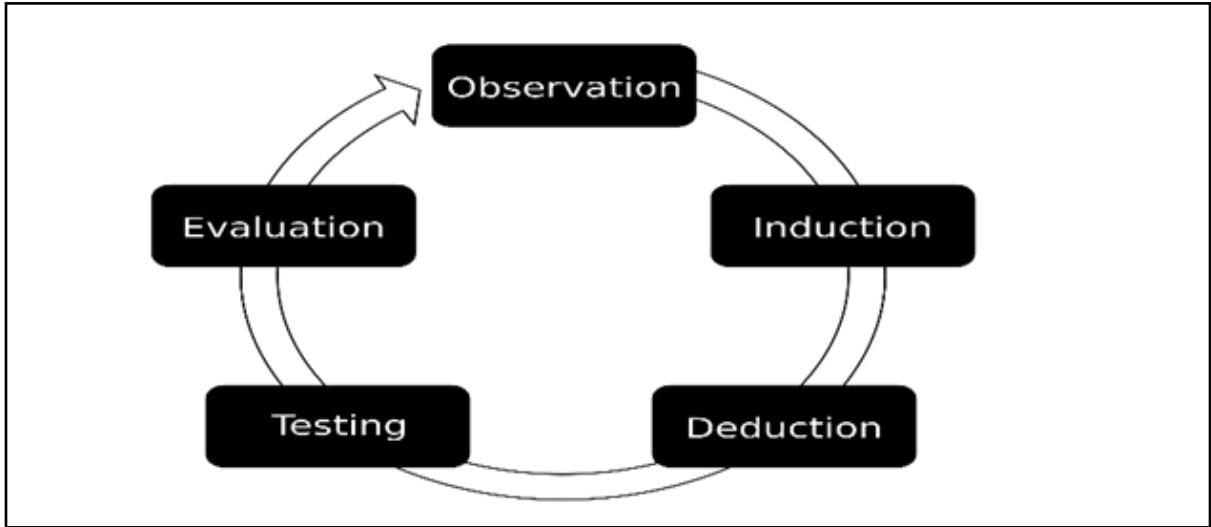


Figure 1. Based on Gall, Gall & Borg (2010). Empirical evidence and research is a formal process intended to generalize principles, or “theory.”

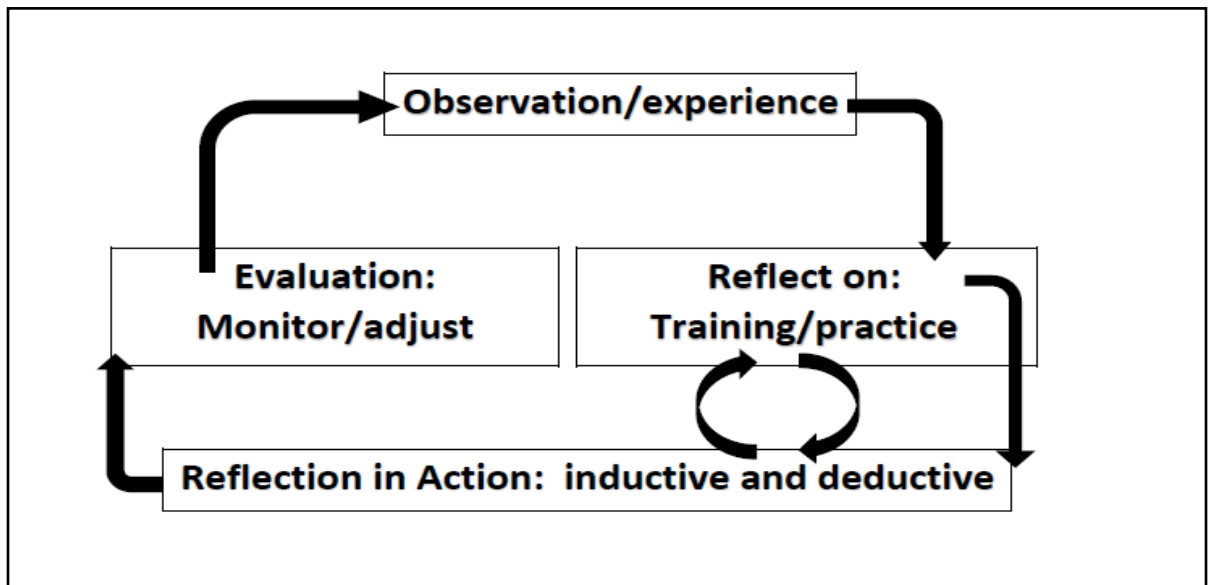


Figure 2. Based on Argyris, & Shone (1994); Kolb (1984). Craft knowledge: informal process intended to inform personal practice.



**National
Social
Science
Association**