2013

Information seeking sources of education policy makers

Shannon Louise O'Brien

INFORMATION SEEKING SOURCES OF

EDUCATION POLICY MAKERS

by

SHANNON LOUISE O'BRIEN

Masters in Initial Teaching, Gonzaga University, Spokane, Washington, 1994
Bachelor of Arts, University of Washington, Seattle, Washington, 1991

Dissertation

presented in partial fulfillment of the requirements
for the degree of

Doctorate of Education
in Educational Leadership

Spring, 2013

Submitted to:

Dr. Sandy Ross
Dean of the Graduate School

Dr. Patty Kero, Chair
Assistant Professor, Department of Educational Leadership

Dr. John Matt
Department Chair of Educational Leadership

Dr. William P. McCaw
Associate Professor, Department of Educational Leadership

Dr. Courtney Stewart
Assistant Professor, Department of Educational Leadership

Dr. Robert Saldin
Associate Professor, Department of Political Science

ProQuest LLC.
789 East Eisenhower Parkway
P.O. Box 1346
Ann Arbor, MI 48106 - 1346

O'Brien, Shannon Louise, (Ed.D.) Spring 2013 Educational Leadership

Information Seeking Sources of Education Policy Makers

Chairperson: Dr. Patty Kero

The information seeking sources of education policy makers was examined in an effort to reveal informed approaches toward minimizing the gap in communication and understanding between education policy makers and educators. Quantitative data were collected from state legislators (n=194) throughout the United States, including background information and information seeking frequencies from ten different sources. Analyses of the nonparametric data using the Kruskal-Wallis, Bonferroni, Mann-Whitney, and Wilcoxon methods showed statistically significant differences in the information seeking sources of education policy makers based on independent groups including: education committee membership and leadership on that committee, gender, party affiliation and experience level. Additionally, statistically significant differences were revealed in the information seeking sources of education policy makers during the legislative session compared to outside the legislative session.

The data analyses demonstrated that education policy makers reported seeking information most frequently from constituents and colleagues. Recommendations for education policy stakeholders and further research are included in the discussion. Conclusions express the need for education policy makers to seek more information from teachers and school administrators, building relationships of trust during interim sessions in order to have more efficient dialogue and exchange of information during the busier time of the legislative session.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

Chapter One

Introduction

Historical evidence demonstrates that strong education policy can make a positive difference in improving learning environments for students across the United States (Darling-Hammond, 2010). According to Marshall (1988), while both educators and education policy makers desire better schools, there is a disconnect in communication and general understanding between these two stakeholders. Education policy makers develop laws that affect the funding and practices of teachers and schools. These political actors hold a great deal of influence over the education system. The information seeking sources of education policy makers needs to be examined because our education system is vital to our democracy and a healthy society (Ahladeff & Goodlad, 2008), and academics have explained that more relevant information leads to better decisions (Porat & Haas, 1969; Soder, 2001). These authors suggest that the survival of democracy in the United States requires an educated citizenry, a result that is largely influenced by our system of public education (Ravitch, 2010). According to one of our founding fathers, Thomas Jefferson:

> Every government degenerates when trusted to the rulers of the people alone. The people themselves are its only safe depositories. And to render even them safe, their minds must be improved to a certain degree. . . . An amendment to our constitution must here come in aid of the public education. The influence over government must be shared among all people. (as cited in Padover, 1939, p. 87)

At one time, education policy was a relatively banal, overlooked issue but has since become more controversial as more attention is placed upon these policies (Bell & Stevenson, 2006). Education policy is a complex process involving multiple environmental factors,

including people, influence over those people and their ideas, the actual text of each policy itself, the implementation of that policy, as well as measurement and analysis of the policy's effectiveness (Bell & Stevenson, 2006; Fowler, 2009).

Now, more than ever, lawmakers are prioritizing education issues and gathering information to make well-informed decisions to support academic success of students from multiple backgrounds (Darling-Hammond, 2010). For almost 30 years, education professionals and academics in the field of education in the United States have found a demand for education reform by policy makers, teachers and administrators, parents and communities (Darling-Hammond, 2010; Evans, 1996; Ravitch, 2010). Mitchell, Shipps and Crowson (2011) argued that over the last 60 years, policy makers have generally been dissatisfied with education improvement efforts and seek changes in policy, specifically in accountability and ways to ensure that each child is successful.

Scores on the international standardized tests indicate students in the United States have continued to fall compared to other countries between 1989 and 2009 according to the National Center for Educational Statistics (NCES, 2011). Data suggest that the academic achievement of students in the United States is falling, placing 15th internationally and trailing behind the scores of other countries (Darling-Hammond, 2010; Ravitch, 2010; Wagner, 2010). Each year, more than a half million students in the United States drop out of high school (Heckman & LaFontaine, 2007), and those who drop out earn an average income of $9,000 less per year than do high school graduates (Warren & Halpern-Mannerns, 2007). The National Commission on Excellence in Education (NCEE, 1983), through a publication called *A Nation at Risk*, brought to attention a strong need for improving our schools, but failed to provide specific solutions

(Darling-Hammond, 2010). Tony Wagner (2010) stated that a need for change has become "accepted wisdom of the day" (p. xxi).

Policies at the federal, state, and local levels that focus on accountability and school choice have not met the needs of children in the United States (Ravitch, 2010). As of May 2012, 37 states filed for a waiver of the No Child Left Behind Act's standards (U.S. Department of Education, 2012). This aversion to federal policy may be indicative that current policies need review.

The Problem of the Study

The problem that this study addresses is the limited amount of time state legislators have to process the overload of policy related information available to them. Amendment X of the U.S. Constitution explains that the powers not designated in the Constitution are delegated to the states, therefore the primary responsibility of education lies at the state level. In addition to the many other issues competing for attention of state policy makers, an overload of information and limited time to process that information presents a great challenge in identifying the best solutions regarding education. Legislators manage numerous important issues beyond education, including revenue and expenditures, healthcare, transportation, incarceration, and energy. As a result of the abundance of information regarding multiple issues, as well as other demands on their time, time for lawmakers to accomplish tasks and draw unbiased conclusions is limited.

Potential solutions are plentiful and many innovative ideas exist to improve instruction for our students; however, not all data are clear on what is most effective for all students (Marzano, Waters & McNulty, 2005). School reform policy needs conclusive research to allow policy makers to move away from decisions based on anecdotal assumptions to compliment information obtained directly from school personnel. According to Fowler (2009), well-

informed education policy makers are needed to lead in a positive direction for public education reform. Fowler (2009) also expressed a need for policy makers use of "advisory councils, citizen task forces, and town meeting style of debates" (p. 102) to develop sound policy.

Historically, changes in education policy, made by well-informed policy makers, have improved the learning environment for students (Darling-Hammond, 2010). The Elementary and Secondary Education Act of 1965 helped to address equal opportunities and focused resources on populations with high need (Kozol, 2005). Additionally, desegregation decisions in our court system (Brown v. Board of Education, 1954) encouraged substantial changes in the social environment of students. Following the Brown vs. Board of Education decision, the resulting improvement in the achievement of students of color became evident. Traditionally poor schools gained funding to pay teachers salaries comparable to those of teachers in more affluent communities and programs were developed to meet the needs of all learners (Darling-Hammond, 2010; NCES, 2006).

In addition to conflicting issues needing attention, the issue attention cycle, as explained by Downs (1972), is a dynamic process where attention to a specific policy issue is intermittent and continues to occur when problems are persistent and unresolved. It is difficult for education policy makers to focus their attention for a length of time on any one topic because of many issues and events that might draw their attention elsewhere.

A great challenge of legislatures is prioritizing the bounty of information they have access to in order to make sound and unbiased decisions. According to Gerbner (1958) and Schneider, Hastorff, and Ellsworth (1979), all information that is communicated by anyone for any reason is a biased collection of the conscious and the unconscious, specifically what information to include, and what to exclude. Whiteman (1995) and Baumgartener and Jones

(2012) explained that there is an abundance of information in government, and that the problem has been finding a way to sift through useful information. Simon (1971) explained that the challenge of having too much information is time consumption. Users of information must learn to manage their time well, because with a wealth of information on all topics, users may become overly engaged in the information of one topic and therefore neglect another topic:

> What information consumes is rather obvious: it consumes the attention of its recipients. Hence a wealth of information creates a poverty of attention, and a need to allocate that attention efficiently among the overabundance of information sources that might consume it. (Simon, 1971, pp. 40-41)

Members of Congress and state legislatures are overwhelmed with committee and caucus meetings, phone calls, emails and texts, travel to and from their districts, and the need to be informed on each of the issues for voting purposes (O'Donnell, 1981; NCSL, 2010). According to Gilligan (1993), legislators seek information from collegial experts, or those legislators with demonstrated experience and interest, as well as those with similar political goals as their own. In fact, Kingdon (1977) found that the most accurate indicator of how a person will vote is where or from whom they retrieved their information.

Time is limited in policy development. Legislators must be strong managers of their time in order to respond to constituent needs as well as be informed enough to make appropriate decisions regarding the ever-important issue of public education.

Purpose of the Study

The purpose of this quantitative study was to examine the information seeking sources, specifically the sources of information of education policy makers when they draft, deliberate, and vote on bills regarding education policy.

According to Mitchell (2006), state education policy is affected by cultural norms established by policy makers over years of work. The assumptive world of education policy makers (Marshall, Mitchell, & Wirt, 1985) has been described as a subjective construct that influences beliefs, power, and rituals, among other things. The complexity of the process of policy making requires careful and deliberate consciousness of decisions, as well as information seeking to inform these important decisions. Identification of information sources for policy makers will provide a foundation upon which evaluation of these sources can develop. Ensuring validated sources of information may support more effective policy development (Soder, 2001) and constituent satisfaction with policies (Vroom & Yetton, 1973).

Researchers (Janis, 1972, 1982; Vroom & Yetton, 1973) have examined how leaders come to a decision. Trottier, Van Wart, and Wang (2008) expressed a need for accessibility of information, including empirical tests of well-developed models within the public sector, for sound policy development. Recently, governments have spent unprecedented resources in developing access to performance data to support good decisions by policy makers (Moynihan, Pandey, & Wright, 2011).

According to Canary (2010), little is known about education policy makers' information seeking sourcess, their advisory systems, or source selection in gathering information on issues of education policy. When a leader is aware of their source of information, they are better able to process that information (Soder, 2001). Furthermore, Vroom & Yetton (1973) assert that the known sources of information can determine how well the public accepts a decision made by leaders. When public officials and managers are knowledgeable about and transparent with their sources of information, research shows that constituents are more satisfied with the decisions that are made.

The Research Question

The primary research question is articulated below, along with the null hypothesis (H_0). Additional questions, hypotheses and null hypotheses will be addressed in Chapter Three.

Primary Research Question: Are there statistically significant differences in the frequency of use of different information sources between groups of education policy makers as they draft, deliberate and vote on education related bills?

Hypothesis: There are statistically significant differences in the frequency of use of different information sources between groups of education policy makers as they draft, deliberate and vote on education related bills.

Null Hypothesis: There are no statistically significant differences in the frequency of use of different information sources between groups of education policy makers as they draft, deliberate and vote on education related bills.

Definition of Terms

There is a need for precision in research, and therefore definitions of terms are recommended (Creswell, 2012) based on previous research so that good science is practiced. For the purposes of this study, the following definitions will be applied:

*Citizen Legislature***.** As opposed to a professional legislature, a citizen legislature is a state legislative body with members who receive low pay and typically have another source of income (Owings & Borck, 2000).

*Collegial Expert(s***).** Collegial Experts were defined as senators or representatives with professional or committee experience or a specialization in the field of education (Bennett, 2010; Kingdon, 1977; Williams, 2009). The instrument for this study used the more generalized term "Other Legislators," to minimize confusion for survey participants.

Constituents. Constituents were defined as constitutionally identified people with political power, who are represented by legislators (Loughlin & Walker, 2008).

Education Policy Makers. There are many actors in the development of education policy, including students, parents, teachers, administrators, school board members, and members of the U.S. Congress. State level legislators have more influence than any other group over education policy (Marshall, et al., 1989; Bell & Stevenson, 2006; Fowler, 2009); therefore, for the purpose of this study, education policy makers were defined as state legislators from across the United States.

Information Seeking sources. The term "information seeking" has been defined as a "process in which humans purposefully engage in order to change their state of knowledge" (Marchionini, 1995, p. 5). Additionally, definitions of this term Wilson (1999) and Choo (2006) include patterns of behavior that are enacted as people recognize the need for information. For the purposes of this study, information seeking sources was defined as patterns and processes that people experience in order to gain knowledge.

Information Seeking Sources. Choo (2006) describes information seeking sources as those places where people look for information. This may be conscious or by habit, including, for example, reading the newspaper each morning, or picking up a phone to ask someone a specific question.

Legislative Leader. Legislative leader "refers exclusively to the holders of formal positions of leadership in legislative bodies" (Patterson, 1963, p. 399).

Legislative Education Committee. Fowler (2009) explains that each state legislature has at least one education committee that develops education legislation, reviews existing laws, and holds hearings regarding education issues.

Party Influence. Party influence was defined as a process in which the behavior of individual legislators is affected by their acquisition of information transmitted through a collegial network consisting largely of fellow party members (Panning, 1983).

Performance Information. For the purposes of this study, performance information was defined as data collection for the use of public officials' decision making (Moynihan, Pandey, & Wright, 2011; Kroll, 2011). These data are traditionally collected by legislative staff, and therefore the instrument for this research will use the term legislative staff for performance information data.

Policy Actors. People and groups who are involved in the process of policy making (Fowler, 2009).

*Professional Legislature***.** Professional legislators typically have higher pay with no additional jobs outside of politics, larger staff and have longer legislative sessions than citizen legislators (Owings & Borck, 2000).

Professional Organization Lobbyists. Professional organization lobbyists were defined as teachers, unions, or school administrator organizations that develop specific policy agendas and have lobbying activities (Baumgarten et al. 2009).

Public Policy. The definition of public policy varies greatly between scholars, in part because of philosophical differences among academics on the basic nature of humans and society, including the meaning of power and the role of government (Almond, 1990; Fowler, 2009). According to Michael Kraft and Scott Furlong (2010):

> Public policy is what public officials within government, and by extension the citizens they represent, choose to do or not to do about public problems. Public problems refer to

> conditions the public widely perceives to be unacceptable and therefore requiring intervention (p. 5).

School Personnel. School Personnel refers to teachers, principals, administrators, counselors, social workers, psychologists, nurses, librarians, and other support staff employed by a school or who perform services for the school on a contractual basis, according to the Elementary and Secondary Education Act (ESEA, 2002).

Think Tanks. Think tanks refer to non-profit organizations that are independent and non-interest-based that produce expertise and ideas to influence the policy making process, they are also known as public policy institutes (Rich, 2004).

Delimitations

According to Creswell (2012), researchers use delimitations to narrow the scope of the given topic. Although the term education policy maker could include a number of policy actors, participants of this study were delimited to state legislators from across the United States. This delimitation is based upon the research of Marshall et. al, 1989 and this population will be further described in Chapter 3.

Limitations

Of the 1500 education policy makers from throughout the United States in the sample population, 194 chose to participate, for a 13% response rate. The responses were self-reported, not researcher observations, and although robust analysis methods were utilized, nonparametric data were collected which could be considered a limitation of the research.

Significance of the Study

The aim of this study was to contribute to responsible decision-making in leadership, specifically in education policymaking. Kingdon (1977) noted that the source of a legislator's

information was the strongest indicator of how he or she would vote. Ultimately, if education policy makers are aware of their sources of information, they are better able to process that information and their constituents will benefit from the transparency of the entire process (Soder, 2001).

This research found that education policy makers are likely to seek information most frequently from their colleagues and from constituents; legislative staff (or performance data) and school personnel are not as frequently used as information sources. Ultimately, this research allows for thoughtful approaches toward the decision making process, identifying the information seeking sources as prominent in education policy maker's influence and the results of the study illustrate the sources of this influence.

All human beings have biases and have a tendency to select information sources that confirm those biases (Nickerson, 1998); if educational leaders are aware of these biases, and the potential biases of themselves and of their sources of information, they will be able to make more sound decisions. Finally, if the public is aware of these sources they could be more willing to accept the policy and processes.

Chapter Summary

Education reform is becoming a prioritized public policy by educational leaders and education policy makers from throughout the United States. Academics argue that good information leads to better decisions to improve education policy, which in turn will address the learning needs of students. However, education policy makers deal with an overload of information and are challenged with conflicting issues that need their attention.

This research explored the information seeking sources of education policy makers, specifically at the state legislative level, where most of the education policy power lies

(Marshall, Mitchell & Wirt, 1989). The significance of this study is for the reader to recognize the sources of education policy maker's information, and potential bias in decision-making. Additionally, this research identified gaps in communication and sources of potentially helpful information for education policy makers. The following chapter will review existing research in the relevant areas regarding this study.

Chapter Two

Review of the Literature

According to Boote and Beile (2005), the purpose of the Literature Review is for analysis and synthesis of research in a given field. They continued to explain the importance of understanding the history of research in the given academic area in order to build upon strengths and weaknesses of past research. Boote and Beile (2005) asserted that coverage is important; learning about methodology used in past research and understanding the significance of past research and rhetoric are different methods to thoroughly understand the literature in the given research area. Creswell (2012) explained that the purpose of the literature review is to "document how your study adds to the existing literature" and to show others the importance of the research (p. 80).

Outline of the Literature Review

This chapter will include a review of past and current literature surrounding the topic of education policy and information seeking. It will begin by describing research on leadership and public policy in general and then turn to more specific descriptions of literature in the areas of education policy and reform, state legislatures, lobbying, media and press, and leadership and influence. The cultures of state legislatures will be described and education policy at the legislative level will be discussed. The second portion of this chapter will explore literature in the area of information behavior, including information seeking, information processing, knowledge acquisition, and different theories of information behavior of humans, then specifically those of policy makers and information behavior in the field of education policy. The reader will see that there is a gap in the research involving information seeking of education policy makers on a national level. While research exists involving a few selected states (Keese,

1990; Flagel, 1990; Winton-Glisson, 2006), no literature was found that explores the information seeking sources of education policy makers throughout the United States.

Leadership, Policy and Education

Policy makers have multiple sources of influence, including, but not limited to: constituents, colleagues, lobbyists, the media, issue experts/professionals, performance information, friends, and other sources. Each of these can have different impacts in terms of how they influence the policy maker and what research is easily available to them concerning the scope of their influence. The following section will explore the scholarly literature in leadership, policy, and education.

Leadership and Public Policy. Although there are numerous ways of conceptualizing the term leadership, Northouse (2010) described leadership as a "process whereby an individual influences a group of individuals to achieve a common goal" (p. 2). Anderson (2011) explained that public policy makers are leaders in that they make decisions to take action or inaction dealing with a problem or matter of concern to our society, thus influencing groups of individuals. The definition of public policy varies greatly among scholars, in part because of philosophical differences between academics on the basic nature of humans and society, including the meaning of power and the role of government (Almond, 1990; Fowler, 2009). According to Kraft and Furlong (2010):

> Public policy is what public officials within government, and by extension the citizens they represent, choose to do or not to do about public problems. Public problems refer to conditions the public widely perceives to be unacceptable and therefore requiring intervention. (p. 5)

Public policy is a process engaging actors respond to a perceived problem (Dubnick & Bardes, 1983) and a reflection of people's values (Ball, 1990). The legislative environment can be a great challenge for lawmakers. Policy actors are very busy, pulled in many directions, and starved for dependable information on the many issues brought before them (Levine, 2009). Ancient philosopher Plato (Cornford trans., 1945) explained that political leaders must have a deep love of knowledge, since they are the chosen ones to establish the rules to be followed by all members of society. Our legislators are in significant positions of power and influence: as representatives of their constituents, their decisions develop the rules of society, and therefore they are constantly making challenging decisions, not simply on how to vote, but how to allocate their time and other resources. The external environment is a source of information that leaders use to make decisions regarding their organization (Hoy & Miskel, 2008).

Education Policy and Reform. Democracy in the United States is broken and the problem is the education system; a renewal of democracy, beginning with the public school system, is necessary (Alhadeff & Goodlad, 2008). Dewey (n.d.) explained that not only is education a necessity of life for the individual, but he also explained that society is better organized and more successful when each individual contributes where he or she is best suited, and that it is the role of public education (and thus the responsibility of the government) to support a strong education system.

Studies in state education policy making first appeared during the early 1960s (Canfield-Davis & Jain, 2010). Prior to this time, the predominant early 1900s belief of educators and policy makers was that education and politics should be separate (Fowler, 2009). Some of the factors that contributed to this shift and development of education policy and research include: political science studies, collective bargaining and the labor movement, the school desegregation

movement, and the ascent of Sputnik. Although they lacked consistent theories, frameworks, and methodologies, these research endeavors reinforced the need for political awareness by educators (Canfield-Davis & Jain, 2010).

Though education policy changes and discussions occurred prior, education policy and reform saw unprecedented activity in the 1980s (Mazzoni, 1993; Fowler, 2009). Increasingly, society understands the significance of education. According to David Sousa (2010), educators are the "ultimate brain changers." They are in a profession of "changing the human brain every day" (p. 23). After the publication of A Nation at Risk (NCEE, 1983) by the U.S. Department of Education, much attention was brought to the need to improve public schools. Data analysis has illustrated that the United States is falling significantly behind other countries in graduation rates and college preparation (Wagner 2010; Zhao 2009). Only 75% of high school students in the United States graduate rom high school within four years (National Center for Education Statistics, NCES, 2011) and according to a report for the Bill & Melinda Gates Foundation (Conley, 2008), approximately 40% of students must take remedial courses upon entering college.

Many researchers explore education reform in the United States and worldwide (Darling-Hammond, 2010; Darling-Hammond, LaPointe, Meyerson, Orr & Cohen, 2007). However, school reform efforts have often been based on pleasing the political actors, rather than prioritizing student achievement (Evers, Izumi, & Riley, 2001). Mitchell, Shipps, & Crowson (2011) claimed there is a general disappointment by lawmakers in the efforts of school improvement over the past 60 years. Although education policy and reform have been seeing increased activity in the United States, research in these areas indicates that the changes are not all positive, nor have they been focused in the right place.

In order to aid this refocusing, Jonathan Kozol (2007) urged teachers to speak their minds and share their perspectives from the field so policy makers at all levels are able to make well-informed decisions. Additionally, Marshall (1988) suggested that there is a need to bridge the gap between teachers and public policy makers. However, this gap is created by several elements that are constant and unchanging: teachers have been overwhelmed with their work, focusing on the students, and policy makers are consumed in their own worlds (Marshall et al., 1989). Fowler (2009) pointed out that school leaders and state legislators "speak two entirely different languages" (p. 2), and with this brings many frustrations between two groups that must work together in order to make strong, positive changes in the education system.

Education, as a political issue, has been in constant competition for the time and attention of policy makers. "What was deemed important at the beginning of the session may be upstaged by changing events and changing priorities mid-session, and regain major importance at the end" (Canfield-Davis, Jain, Wattam, McMurtry & Johnson, 2009, p. 63). Of late, education has been prioritized; however, educational leaders and policy makers have identified needs in socioeconomic and global equities within our education system that must be also be addressed.

Culture of Legislatures.

Political Scientists have been studying political behavior of constituents and government officials for years. The concept of bias will be discussed in depth in the information behavior section of this literature review, the following section will explore the culture of legislatures, including influences on legislator's behavior and bias.

Clearly, legislators have a multitude of complex decisions to make and a wide variety of information to gather and process. Although signs of fiscal improvement were clear for the 2013 legislative sessions throughout the United States, the challenging issues were identified as:

budget, healthcare, education, pensions/state employees, taxes, transportation/infrastructure, and federal deficit reduction (National Conference of State Legislatures, NCSL, 2012).

Collegial Relationships. In order to make sense of their environment, state legislators develop and maintain a unique culture known as an assumptive world, where actors develop a subjective view of their environment (Young, 1977, as cited in Marshall et al., 1985). Norms and appropriateness of behavior are developed over years of action and relationship building. This assumptive world has a great influence over what legislation is passed and what policies are prioritized, as well as how the agendas are set.

Lawmakers are overwhelmed with committee and caucus meetings, phone calls, emails and texts, travel to and from their districts, and the difficult task of becoming informed on each of the issues for voting purposes (O'Donnell, 1981; NCSL, 2012). In an effort to economize costs, of both legislator's time and of state finances, research shows that it is also common practice for uninformed legislators to seek information from members with "demonstrated expertise and political goals that are congruous to their own" (Gilligan, 1993, p. 322). Perspectives of colleagues with differing political goals are seldom solicited. Kingdon (1977) found that the most accurate predictor of how a legislator would vote was from whom he or she sought information.

There are inherent issues of trust developed within the purported expert's representation of issues to the uniformed legislator (Gilligan, 1993). Gilligan & Krehbiel (1997), while exploring the credibility of the expert legislator, found that committee assignment, as well as past experience, were the highest indicator of the designated areas of expertise. Additionally, nonpartisan policy research organizations have been found to have a strong influence over legislators' decisions if they are of large size and strong reputation (Hird, 2005).

The decision making process at any level is complex, and the culture and norms established within state legislatures are especially intricate and multi-faceted. Lawmakers must make decisions of not only how to vote, how to prioritize agenda items and persuade colleagues, but also how to spend their time in communication with constituents and special interest groups. Further, they must decide how to manage their time in seeking information and becoming prepared to make important determinations.

According to Kingdon (1977), over years of service, experienced legislators develop specializations; therefore communication and dependence on collegial influence is abundant in the legislative process. Much of the literature involving years of experience involves the issue of legislative term limits which became more prevalent in states during the 1990s, involving the discussion of why constituents have a tendency to simultaneously reelect incumbents, while voting for term limits (Carey, Niemi & Powell, 1998). State legislators with more experience are found to develop more sophisticated bills in a shorter period of time than new legislators (Krousser, 2006).

Gender roles set another complexity to the culture of state legislatures and policy making in general. Previous research clearly shows differences in legislative behavior between men and women (Volden, 2013). Men are less likely to be collaborative and consensus minded than women (Carey, Niemi & Powell, 1998) and women are more likely to be liberal in their policy positions and more influenced by constituents' opinions than men (Poggione, 2004).

Another component of the legislative culture is the party system. Political party loyalties are formed early in life, often through family influences, and remain strong throughout adulthood (Bartels, 2002). Carey (2009) explained that "legislative decisions are about votes, and voting behavior is organized by parties." (p. *ix*). Bartels (2002) explained that partisan bias reinforces

perspectives and opinions, causing more polarization between political parties. Research in dissonance and political party preference (Nam, Jost & Bavel, 2013) revealed that conservatives have a stronger need to minimize dissonance and find clarity than liberals.

Legislative professionalism is a term that is used to refer to "unlimited legislative sessions, superior staff resources, and sufficient pay to allow members to pursue legislative service as their vocation" (Squire, 2007, p. 211). Legislative professionalism increased substantially in the 1960s and 1970s then plateaued in the 1980s in an effort to reduce government spending, resulting in term limits to minimize the amount of time in which legislatures are in session, leading to growth in citizen legislatures (Owings & Borck, 2000, Malhotra, 2006). Increases in government spending are directly linked to an increase in state legislative professionalism (Malhotra, 2006). Researchers have explored the possibilities of measuring professionalism in the context of evaluating the capacity of a legislative body (Squires, 2007; Carey, Niemi & Powell, 2000) and now multiple indexes exist to address the effectiveness and efficiency of legislatures. Squires (2007) clarifies differences of careerism in legislatures, which implies an additional job outside of the legislature. Additionally, the more time a legislator has to spend at the capitol, the better understanding he or she has of the political process (Squires, 2007).

Political scientists have designated geographical regions as cultural groups for research purposes. These four basic regions of the United States: northeast, south, midwest, and west (NCSL, 2012) seem to have a small influence on political attitudes and behavior of state legislators. (Erickson, McIver & Wright, 1987; Ringe, Victor & Gross, 2009). Regional differences in political ideology are directly linked to cultural differences (Lieske, 1991) and cultural reference theory is stronger than the more independent rational voting theory. Hillygus

and Shields (2008) revealed that southern voters are less tied to party politics than voters in other regions, as the south experiences a change in population demographics, suggesting a rise in Democratic Party strength in that region. Skocpol & Williamson (2012) explained that the members of the growing Tea Party movement have a great distrust and even "vex 'establishment' Republicans" (p. 156), working to organize grass roots volunteers to keep Republicans accountable to ultra conservative views, not necessarily traditional views of the Republican Party.

Legislative Decision Making & Information in Education

Myriad sources have been found to influence policy decisions at the state legislative level, including: party and party leadership, committees, staff, lobbyists, the governor, interest groups, and constituents (Patterson, 1963, Marshall, 1989, Canfield Davis, 2010)). A series of studies of legislators in Minnesota conducted by Mazzoni (1993) on these influences showed that regarding school issues, legislators identified personal feelings, constituent opinions, collegial perspectives, staff recommendations, interest groups ideas, and views from friends as the elements that shaped their decisions. Mazzoni (1993) utilized a collection of 21 case studies of specific legislation regarding education policy over a period of 20 years. Data were collected through newspapers, other written documents and informal interviews with stakeholders, including legislators. Findings revealed that legislators held the most influence of any other education policy actor; governors, lobbyists and other interested groups needed to have legislator support in order to gain momentum in any type of education initiative. Additionally, Mazzoni (1993) described the relative influence of committee chairs and other legislative leaders who help power over individual legislators. Mazzoni's study explored influence and was limited to

one state, however it utilized multiple sources of data; this study specifically explored information seeking, one aspect of influence, and participants represented 42 states.

Keese (1990) found that fellow legislators and education lobbyists were most effective in influencing decisions of state legislators in educational issues and were considered the most reliable sources of influence over Tennessee legislators' decisions. School administrators, special interest groups, family and friends, business and industry lobbyists, teachers, state agencies, and constituents were in the medium range of effectiveness, and political parties, parents, national and regional organizations, legislative staff, college or university representatives, and the governor were the least reliable sources.

Studies in multiple states show that personal views, constituent perspectives, colleagues' opinions, and party views influence state legislators' education policy decisions (Roberson, Durtan, & Barnham, 1992; Winton-Glissen, 2006). Consistent research finds that legislative colleagues have a strong influence over policy makers' decisions.

Information Sources for Legislators. Time is limited in policy development. Legislators must be strong managers of their time in order to respond to the many constituent needs as well as be informed enough to make appropriate decisions regarding the ever-important issue of public education. Thus, policy leaders must be careful and selective time managers, and must be able to make decisions about prioritizing tasks, and constantly monitor how much time to spend in their information seeking sources regarding each issue. This research explores the information seeking sources of state legislators, including their sources of information in drafting, deliberation, and voting on bills regarding education policy. Kingdon's research (1977) revealed that the information source was the highest level of accuracy for predicting voting behavior of legislators. The following is a review of existing literature on information sources

for legislators. These sources were used for this research as the dependent variables, or the sources of information on the questionnaire that were provided as options for participants.

Colleagues. Research shows that colleagues are the greatest influencers over legislator's voting behavior, more so than external influences, such as constituency groups or lobbyists (Kingdon, 1977; Keese, 1990, Mazzoni; 1993). In an effort to economize costs, in both legislator's time and in state finances, research has shown that it is common practice for uninformed legislators to seek information from members with "demonstrated expertise and political goals that are congruous to their own" (Gilligan, 1993, p. 322). The perspectives of colleagues with differing political goals are seldom solicited.

There are inherent issues of trust developed of the presumed expert's representation of issues to the uniformed legislator (Gilligan, 1993). Krehbiel (1992), while exploring the credibility of the expert legislator, found that committee assignment, as well as past experience was the highest indicator of the designated areas of expertise. Panning (1983) found that in order for a legislator to trust his or her colleague's information for a vote, political goals must be congruous; they must see eye-to eye on the issue.

Constituents. Legislators represent residents who reside in their home district. Research revealed that legislators rely on constituent communication for direction on how to vote, and that constituents ranked third as a factor of influence in decision making (Canfield-Davis et al. 2010). Research has discovered that legislators have a tendency to be more responsive to service opportunities than policy suggestions by their constituents (Butler, Karpowitz & Pope, 2012).

Executive Branch. The influence of the governor's and the chief school officer's offices vary greatly among states (Fowler, 2009). Activities of the National Governors' Association (NGA) has increased executive level influence on education by providing information for

governors and their staff on policy issues and activities in various states (Beyle, 2001; Fowler, 2009). Canfield-Davis and Jain (2010) found that the executive branch was a factor of influence in legislator's policy making decisions.

Legislative Staff. Adding yet another layer of complication is another set of policy power actors: the legislative staffers (Marshall et al., 1989). Staffers find a great deal of information for legislators, some of which the legislators request, others the staffers collect on their own, using their own experience and expertise. Staffers also experience overwhelming challenges of many priorities, and according to Kurtz and Schrank (2007), the greatest challenges facing legislative staff are public cynicism and new legislators who do not understand the staff (NCSL, 2012).

Support staff and offices have been established at all levels of government to provide information for policy makers. Trottier, Van Wart, and Wang (2008) express a need for accessibility of information, including empirical tests of well-developed models within the public sector for the purpose of policy development. Recently, governments have spent unprecedented resources in developing access to performance data to support good decisions by policy makers (Moynihan, Pandey, & Wright, 2011). According to the United States Office of Management and Budget, ''the ultimate test of an effective performance management system is whether it is used, not the number of goals and measures produced. Federal performance management efforts have not fared well on this test'' (US OMB 2010, p. 73). Bordeaux (2008) explains that the most common use of performance information is through the executive budget though it shows little influence over legislators in their decision making. However, according to the National Conference of State Legislatures (NCSL, 2003), legislators themselves have shown an interest in moving toward using more performance information than previously used.

Lobbyists. In order to fully discuss the implication of information behaviors in education policy, it is important to recognize the difference between lobbying and information seeking, which involves the direction of communication. Lobbyists refer to organizations that hire people to regularly contact members of the legislative branch of government (Baumgartner et al., 2009; U. S. Lobbying Disclosure Act of 1995). Levine (2009) further explains that lobbyists are considered a vital part of the U.S. political system and even a "fourth branch of government" (p. ix). It is important to further clarify that lobbying is a formal legal term, which requires lobbyists to register through the federal or individual state governments. Although the public will communicate with lawmakers regarding specific issues, often to persuade them to prioritize an issue, some may consider this lobbying and legally it is not (Fowler, 2009).

Information seeking, however, is considered a purposeful and proactive effort on behalf of the political actor in order to learn more about an issue or situation (Marchionini, 1995). According to Hall & Deardorff (2006), lobbyists are among the most experienced and knowledgeable actors in state legislative policymaking. Research exists that explores lobbying and information seeking of policy makers but limited research exists within the scope of education policymaking.

Media. Research has shown that media presentations influence policy makers, specifically those in government and not those who represent special interest groups. According to Cook et al. (1983), after watching a news special, government elites were likely to change their perspectives on the importance of certain issues and whether or not action should be taken. Rozell and Mayer (2008) claimed there is not "fair and adequate coverage of (state policy makers') activities reported to voters," (p. 138), although media attention is increasing at the

state level. According to another study, only 1.4% of media attention is focused on educational issues (West, Whitehurst, & Dionne, 2009).

School Personnel. Research shows that communication between education professionals and education policy makers is limited (Fowler, 2009; Marshall, 1989 & Canfield-Davis & Jain, 2010). McDonnell (1988) stated that during the 1980s a shift occurred that saw policy influence move away from education professionals, including chief state school officers such as office of superintendent of public instruction, toward the legislature and governor. Canary (2010) revealed that constructing education policy knowledge is a complex process involving communication and takes place over a long period of time. Fowler (2009) explained that few education professionals understand how public will is turned into public policy. A study in Oklahoma (Winton-Glissen, 2006) showed that legislators are greatly influenced by school personel and heavily influenced by their colleagues in the legislature.

Think Tanks. Think tanks are independent organizations that produce expertise and ideas to influence the policy making process. While often helpful in analyzing a great deal of performance information and introducing new perspectives and ideas, researchers from think tanks can be biased (Rick, 2004). Think tanks are outside formal government and enlist top scholars and private industry executives to analyze policy, organize conferences and influence other policy actors (Stone, 1996). Analysis of the influence of think tanks have been largely overlooked and it would be beneficial to have more research in their contributions to the policy process (Stone, 1996). Ableson (2009) explains that think tanks, also known as public policy institutes, are on a significant rise in numbers and influence.

Education Policy at the State Legislative Level. According to the Tenth Amendment of the United States Constitution, education policy is a field wherein authority is implicitly granted

to the states (U.S. Constitution). In years past, however, the states have given up some of their authority to the local level, primarily the school district (Fowler 2009). By the 1990s, much of the power originally given to the local or district level had been taken back by both the state and federal governments (Mazzoni, 1995). Although there are numerous actors in the education policy environment, including chief state education officers, teachers unions and professional organizations, school boards, and individuals at the district and building level, the individual state legislator holds the greatest amount of power as described in Table 2.1 (Marshall et al., 1989). Other education policy actors with influence include state boards of education, school board associations, administrators associations, courts, the federal government, non-educator groups, lay groups, and education research organizations. Darling-Hammond et al. (2007) pointed out the need for strong school administrators, specifically principals, who can support teachers, in implementing new education policy. Another group that contributes to education policy is the local community. Orr and Rogers (2011) explained the need for parents and local community members to become engaged in public education in order to revitalize democracy and find more equity in schools. They clearly develop the argument that ethnic minorities and families of low income are not as engaged in the public process of policy development, and specifically in education. This hurts not only their own children, but this lack of involvement also threatens our school system and democracy.

Table 2.1

Ranking of Education Policy Actors' Influence

Rank	Policy Actor
1	Individual Legislators
2	Legislature as a Whole
3	Chief State School Officer
4	Education Interest Group Combined
5	Teachers' Organizations
6	Governor and Executive Staff
7	Legislative Staff

Note: Adapted from "Culture and education policy in the American States," by C. Marshall, D. E. Mitchell, & F. Wirt, 1989. NY: Falmer Press.

McDonnell (1988) explained that when legislators are making decisions, many different factors are considered, therefore the following is a guideline for education policy researchers to take into consideration within the legislative arena:

> Research-based information can most effectively serve three main functions: providing a general framework for thinking about policy; defining a policy problem and identifying potential solutions; and assessing the feasibility of prospective policies or the implementation and effects of existing ones. (p. 93)

One of the challenges of consistency within education policy development are issue attention cycles. According to Downs (1972) issue prioritization shifts rapidly, and attention on a specific issues is intermittent, which leads to challenges in seeing one policy through to completion or action. Issues other than education distract legislators throughout policy development. These cycles persist when problems remain unresolved; thus, in order to address the recurring need of education policy reform, distractions must be minimized.

Clearly, developing sound policy is a complicated effort. Many stakeholders and factors come into play in the decision making process and the great task of allocating taxpayer dollars.

Further, these individuals must ensure the stability of an effective education system that addresses the learning needs of all students in the country, and manage many other important issues of state business. This is a complex process with numerous perspectives and various levels of both formal and informal processes. A great number of policy actors have indicated the need for a strong education system that will help develop social justice and a strong economy. One of the great challenges is how these policy actors will work together to share and prioritize information so that it may be used to make useful decisions. Research shows that primary actors, those with the most influence in education policy, are the members of state legislatures (Marshall et al. 1989), so it will be the information seeking practices of this population, at a national level, that will be explored in this research.

The following section of the literature review will explore research involving information behavior and information seeking sources in general and what has been shown to influence people when they seek information.

Information Behavior

According to Thomas Wilson (1999), information behavior is a term referring to all of the activities associated with seeking, acquiring, using, and sharing information. Further research described information seeking sources as part of a broader field of information behavior and describes an active search for information as opposed to passive information interaction, such as observing someone on the street or listening to someone who approaches the individual (Wilson, Ellis, Ford, & Foster 1999).

Wilson (1999) developed a model of information behavior that includes an individual's need for the information, information seeking sources, demands on information sources and systems, information exchanges and transfers with others, and eventually, information use,

including an assessment of satisfaction or dissatisfaction. This is a cyclical model, in which the user might, at any given step, return to the beginning or attempt a different route to seek or use the information. The individual, driven by need, may seek formal or informal sources.

Information Processing and Knowledge Acquisition

In the field of psychology, George A. Miller first introduced the concept of information processing in 1956 (Davidson, 2008). Miller described and introduced two basic principles: the first is the concept of "chunking," where the mind is only capable of handling seven, give or take two, units of information at once in short term memory. The second concept, TOTE (Test, Operating, Test, Exit), which consists of testing a thought or idea, then operating, then testing again, then exiting the situation, was proposed to replace the basic stimulus response concept of Ivan Pavlov's classical conditioning established in 1927 (Davidson, 2008; Miller, Galanter & Pribram, 1960). Pavlov found that a dog could be trained to salivate by the sound of a bell, using the smell of food as an association. The TOTE concept allowed for a check on simple association, such as the smell of food when a bell rang. Miller developed the concept of information processing much beyond the simplicity of Pavlov's 1927 work, essentially moving from a two step, stimulus-response model to a four step, more complex model.

Aristotle (n.d.) also introduced the concept of knowledge acquisition in his book *Organan* in an explanation of logic. He described the human mind as a "tabula rasa" or blank slate upon birth, followed by a series of experiences in which the individual builds knowledge. More recently, researchers and practicing educators have been collaborating within a new area known as educational neuroscience: the intersection of psychology, pedagogy and neuroscience (Sousa, 2010). Educational neuroscience explores ideas such as creativity and whether or not it

can be taught, emotions and learning, brain networks and literacy, spoken language acquisition and processing math and quantities, among other concepts.

Regardless of one's fundamental belief in information processing, and despite the fact that many theories exist to explain how we process information and acquire knowledge, this remains true: strong leaders need solid information in order to make solid policy decisions.

Bounded Rationality. The concept of bounded rationality takes into account the limitations of knowledge, cognitive capacity, and time (Simon, 1971; Morecroft, 1988) when making decisions and seeking information. Simon (1971) described three areas of the limitations of bounded rationality: human cognitive capabilities of processing the information, the amount of knowledge and information available or accessed, and by the perspective or values of the individual or organization. Simon (1971) and Choo (2006) further explained that an organization can help remedy the limitations of bounded rationality by supporting the individual human being in the three areas of limitations, or conversely an organization can influence the ideas, values, and perspectives. These concepts of social cascades and group-think will be discussed later in this literature review.

According to Jones (2001), it is important to understand that while seeking information to make choices, people are goal directed, adaptive to their surrounding environment, uncertain, and willing to make trade-offs in order to make choices and address sometimes conflicting goals. When decisions are made with limited information, action is then directed toward a local or more personalized goal in order to justify that decision and action. This implies a desire of the leader or decision maker to rationalize his or her own perspective.

Cognitive Dissonance and Confirmation Bias. One of the earliest theories of information processing established the concept of cognitive dissonance (Festinger 1957 & 1964),

which described an inner desire for harmony or an avoidance of discomfort (dissonance) when two or more conflicting cognitions (ideas, beliefs, thoughts or perceptions) exist. Once committed to an alternative or behavior, people prefer information that supports that behavior or belief and dislike opposing information. Legislators deal with vast amounts of information that might conflict with what they believe to be true, or actions that they have taken, and this will cause discomfort (Clark et al. 1995). The theory of cognitive dissonance began after Festinger observed a group of people who believed that the end of the world was coming and extra-terrestrial beings would arrive on a specified day, sparing only this group of people. When the day came, and the extra-terrestrials did not arrive, instead of loosing momentum, the group response was a stronger commitment to their beliefs and the development of a campaign to spread its message. Festinger developed the theory of cognitive dissonance to explain this phenomenon: in dealing with the discomfort of what they believed would be truth not happening, they adjusted their beliefs by becoming more public and became stronger supporters of the idea. Many had made great compromises for the cult, leaving spouses, jobs, and school to devote themselves fully. Festinger explained that "the greater the conflict before the decision, the greater the dissonance afterward (1964, p. 50)." The theory assumes that a person will respond to situations with conflicting information by making one or more attempts to minimize the discomfort by either changing their behavior, changing their cognitions, or justifying their behavior by adding new cognitions.

Cognitive dissonance has been criticized and researched widely as others (Frey & Wicklund, 1978; Wicklund & Brehm, 1976) explored additional factors of influence including curiosity and intellectual honesty. However, research has revealed that people seek consonant information and avoid dissonant information (Frey, 1982), and this includes cognition within the

political realm. Literature in cognitive dissonance explained that people who vote for a person, and become more committed to that candidate than others who do not vote at all, experience more dissonance (Mullainathan & Ebonya, 2011). Additionally, political party polarization is a result of cognitive dissonance. People are likely to justify their opinions and have stronger opinions if they have taken action by voting on them.

Another aspect of cognitive dissonance is confirmation bias. People prefer selective exposure to information that supports their prior decision (Jonas, Schulz-Hart, Frey & Thelen, 2001). Emotions play a role in making political decisions and confirmation bias has been studied in political activity (Weston, Blagov, Kilts, & Hamann, 2006). Research suggests that individuals search for information that proves that they are in possession of the truth. Nickerson (1998) explaind that confirmation bias is this very "seeking or interpreting of evidence in ways that are partial to existing beliefs, expectations, or a hypothesis in hand" (p. 1). The fact cannot be ignored that leaders often seek information to confirm or rationalize their own beliefs or perspectives; this is a great concern within all human reasoning. People are likely to prefer information that supports their previous attitudes and decisions, and this biased information is likely to strengthen one's opinion or position, even if it is not rational or justifiable based on all the available information. Furthermore, people are more likely to seek confirming information if they know that they will be in a small group and be asked to justify their position or decision (Mojzisch, Schulz-Hardt, Kerschreiter & Frey, 2008).

Information Seeking sources. Information seeking is a "conscious effort to acquire information in response to a gap in your knowledge" (Case, 2007, p. 5). Wilson (1999) and Choo (2006) described the term "information seeking sources" as the patterns of behavior enacted as people recognize the need for information, make decisions about where and how to

look, then reflect on or take action based on the information they find. The first sign of research in information seeking sources is noted in 1948 in response to the "explosion of scientific information" (Choo, 2005, p. 30). Information seeking sources varies greatly depending upon people's specific task requirements, environment, and professional or social affiliations (Auster & Choo, 1993). A key factor in the study of information seeking sources is that it is non-linear and unique based on each person or situation; therefore, it can be challenging to draw concrete conclusions regarding this sophisticated process (Kuhlthau, 1991).

Efforts to organize research in the field of information seeking sources have been developed by numerous researchers. Information seeking sources can be broken down into three basic steps: 1) the recognition of the need for the information; 2) the search; 3) the use of the information (Choo, 2006). See Figure 2.2 for a model of this explanation.

Figure 2.1

Information Seeking Sources Process

Note: Adapted from "The Knowing Organization" (2nd ed.), Author C. W. Choo, 2006, New York: Oxford University Press.

Another researcher who described the information seeking process is Kuhlthau (1991), who explained the process in steps of initiation, selection exploration, formulation, collection, presentation, and assessment. Another model by Ellis (1989) described the steps of information seeking as: starting, chaining, browsing, differentiating, monitoring and extracting.

Information Seeking in Social Networks. Relationships play a key role in seeking information and learning (Borgatti & Cross, 2003; Chatman, 1999; Rogers, 2003). Bias exists in

the way decisions are framed and carried out, and network analysis helps leaders to see the missing contributions of information. Borgatti and Cross (2003) explained the difference between the acquisition of declarative and procedural knowledge. They found that seeking information is a function of: 1) knowing what that person knows, 2) valuing what that person knows, and 3) timely access to that person.

Forrester (1992) further noted that although each person has access to a great deal of information sources, they only use a small fraction of those sources, which leads to incomplete and erratic use of that selected information. Additionally, according to Forrester (1992), managers' successes are dependent on selecting the information most relevant to any issue. Some might argued that humans are lazy or self-serving, but regardless of the perspective, research shows when given their own devices, people will seek information based in social settings on who they know, not where they will get the best information. People do not use systematic or purposeful means to find information.

Chatman's (1999) theory of life in the round explained that information behavior is based on social context. People seek, use, or don't use information based upon their social setting, norms, and perceived expectations of others. This leads to a limited or small world in which information behavior is based. Chatman developed four concepts central to her theory, mostly developed by studying women prisoners: small world, social norms, social types, and worldviews primarily drove information behavior. Small world is a limited vision of the greater or outside world; this leads to a concept of insiders and outsiders, based on the work of Merton (1972). Social norms are the acceptable behaviors within specific contexts. Social types are specific roles and classifications of individuals within each small world; each social type is allowed access to certain information based on their role. Lastly, worldview is the collection of

norms, beliefs, and customs of this collective small-world group or insiders that drive group members to believe only insiders and not people outside of this small world.

Cognitive Authority. Patrick Wilson (1983), in explaining his theory of cognitive authority, explained that most of what people know of the world they have learned secondhand, from another person's experience or perspective. It is important to note that although people learn things from others, they usually trust only those who are somehow deemed to have cognitive authority (Wilson, 1983). This credibility can be established any number of ways; by just being an expert on a topic, one might not gain credibility, and likewise, people might not be able to explain why they give credibility to someone.

Wilson (1983) described the term cognitive authority as one in which there is a perception that a person or thing (book, documentary or institution) is known as a credible source of information, that they know what they are talking about, and others would be influenced to recognize their perspective as being appropriate. This is different from having administrative authority, dictated by a hierarchical position, or as an expert, which one person can be but have no other people recognize this. Cognitive authority implies a relationship of at least two people, and this authority might be limited to only a certain area or field of interest or study. The authority might have no recognition of knowledge or influence in environmental issues, for example, but have a great deal of influence in education. McKenzie (2003) further explained that while cognitive authority is complex, the use of constructionist theory for building understanding and knowledge is one effort to address questions on information selection and cognitive authority, specifically in library and information sciences.

Social Influences on Decision Making.

Group Think. Janis (1972 & 1982) described a phenomenon known as group think, which takes place in social settings where members of a decision-making group desire harmony within that group so much so that they compromise the decision-making process. This is a type of conformity that increases as the group becomes closer and more cohesive and as norms are more strongly established. An honest evaluation of the alternatives is minimized so that consensus might be reached and conflict is avoided.

Social Cascades. Social cascades refer to situations where people base their decisions not only on their own desires, but also on their perceptions of others' desires (Baumgarten et al., 2011). This can be applied to clothing fashions and restaurants that gain popularity quickly, as well as to political momentum in campaigns. This concept could be associated with peer pressure, or perceived peer pressure, in that an individual will make a decision based on how he or she thinks others will act based on their approval or disapproval.

Information Sources and Accessibility. Charles O'Reilly's research (1982) found that accessibility of information had a higher use frequency than the perceived quality of the information. If the source of information was known and/or convenient, then the information seeker was more likely to use that convenient source than use a source that was more likely to offer quality information. Policy makers in education have limited time to spend in gathering information, and the research supports that convenience, as well as social relationships, play an important role in the search for information.

Leaders in education face challenges in decision making, and respond to this situation by an approach known as satisficing, or "finding a satisfactory solution rather than the best one." (Hoy & Miskel, 2008, p. 325). This process assumes that decision making is dynamic and there are not completely rational or right answers to the problems that exist (Simon, 1997). Both

factual information, which is limited, and values play parts in the decision making process of an organization. Gigerenzer (2010) argued that satisficing can attain more positive results than using the more traditional model of maximizing, or optimizing solutions, where all information is know and there is more certainty, because normative situations occur in environments with fewer people, factors and less information.

Source or Media Selection. In addition to knowledge acquisition, people select sources of information in order to build relationships, and there are sophisticated ideas of source selection. Carlson and Davis (1998) distinguished two categories in source selection of information. The first is the trait theory, in which the problem or the information is taken into consideration when selecting the source. The second is the social aspect of source selection: choosing the person that one trusts or with whom the seeking is interested in building a relationship. This second reflection is known as the social interactive theory of source selection.

A number of models have been established to look at the dimensions and measurement of information seeking sources. Kiel and Layton (1981) described three steps in measurement: the sources of information or the media, the number of different sources, and the amount of time spent on each source. Newman and Stalin (1971) and Newman and Lockeman (1975) developed an index to measure the amount of an individual's information seeking sources in a retail setting.

Information Searching in Library and Media Sciences. A great deal of most recent literature on the topic of "information seeking" is designed for the audience of librarians or media specialists (Wilson, 1999). Wilson et al. (1999) referred to this specific behavior as information searching, a subset of information seeking sources. The search process model, according to Kuhlthau (1991), involves initiation, selection, exploration, formulation, collection, and presentation. Various feelings, ranging from optimism to disappointment, are involved as a

person engages in seeking information (Kuhlthau, 1991). Ahlberg and Schneiderman (1999) found that as the information seeking process develops, goals are often reformed continuously, in a dynamic process. Ahlberg and Shneiderman (1999) analyzed browsing for information on websites and found data indicating that a continuous reformulation of goals existed as participants continued to seek information. Additionally, it is important to note that there has been a significant shift in information seeking research from management and leadership to library services as the internet has developed into a major source of information for lay people, professors, and legislators (Pole, 2005).

Legislative Information Behavior.

Information Selection. Simon (1997) described a need for clarity between values and factual information for legislators and administrators and an conscious understanding of the role of each in the decision making process. Political actors are able to influence one another because of the uncertainty of others (Downs, 1972; Panning, 1983). Those who possess relevant information are able to select what information they wish to share and therefore influence decisions. This leads to "selective and strategic communication of information" amongst policy actors (Panning, 1983). Information in the policy arena is a dynamic and ever changing flow composed of a complex system of actors and institutional norms (Baumgarten et al., 2009; Workman, Jones, & Jochim, 2009). When preparing to vote, legislators might deal with incomplete information and disparate policy goals of colleagues (Gilligan, 1993). "Those who can successfully supply information to decision makers will have their interests better represented in the legislative process than those who cannot" (Mooney, 1991, p. 445).

Information exchange takes place within a policy network, which consists of actors, or people who share an interest in a specific issue (Mintrom & Vergari, 1998). Political actors are

able to influence one another because of the uncertainty of others (Downs, 1972; Panning, 1983). Those who possess relevant information are able to select what information they wish to share and therefore influence decisions. This leads to "selective and strategic communication of information" among policy actors (Panning, 1983).

The study of information seeking sources spans the domains of communication, psychology, political science, and marketing. This is a complicated topic, one in which many cognitive, affective, and situational factors come into play (Choo, 2006). Ringe, Victor & Gross (2009), explained that legislators seek predictably bias information, both supporting and conflicting with their own priorities.

Overload of Information. According to Gerbner (as cited in Canfield-Davis & Jain, 2010), all information that is communicated by anyone for any reason is a biased collection of the conscious and the unconscious, specifically what information to include and what to exclude. Legislators have access to more information than they are able to process. Baumgartner and Jones (2012) explained that governments are faced with managing much more information than they can possibly analyze. Access to all the information is not considered a positive thing according to Simon (1971): it is a great challenge to prioritize the bounty of information in order to make unbiased decisions.

As with many information seekers, elected and appointed officials are using more technology to communicate and to access information (Pole, 2005). Legislators are given an additional challenge in the information age: the challenge of deciding the volume of information that they will access on any given topic or issue in preparation for further decisions.

State legislators and members of Congress must be very careful and efficient with their time management: they are expected to attend hearings, vote on the floor, respond to colleagues

and constituents, in addition to other communications (O'Donnell, 1981). Workman et al. (2009) explained that not only do legislators need to find a way to prioritize streams of information but legislative researchers must also find means to develop theories of this stream prioritization in order to find efficient solutions to public problems.

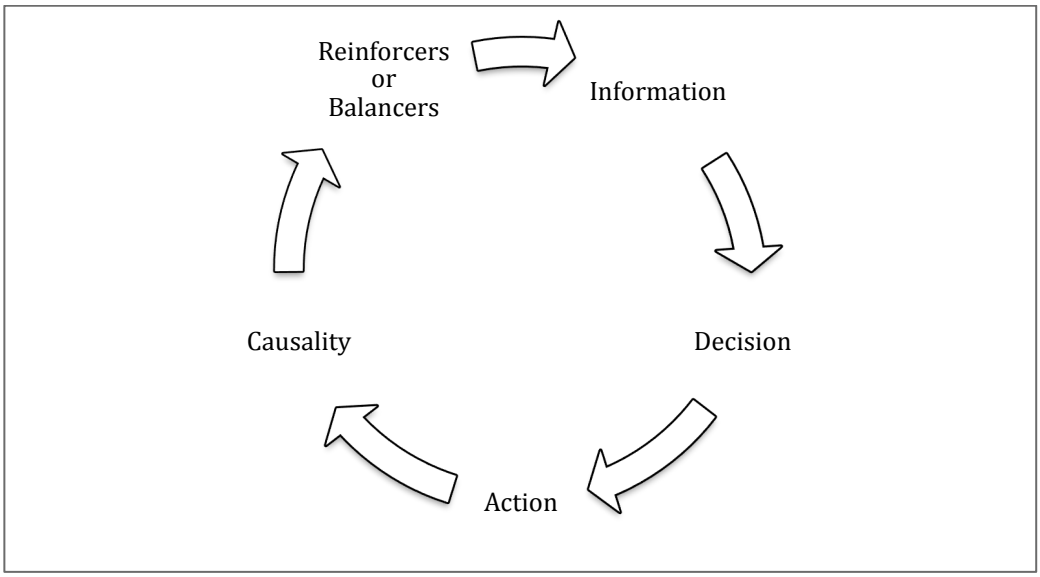
The Importance of Information in Leadership

Literature in the area of information seeking and knowledge acquisition illustrates the importance of relevant information in leadership decisions (Porat & Haas, 1969; Simon, 1971; Morecroft, 1988; Forrester, 1992; Senge, 1990). Forrester (1992) clearly explained that the leader's success is dependent upon selecting the most relevant information and using that information effectively.

Simon (1971) described a dynamic leadership model where the manager, or leader, is the converter of information. That information leads to decisions, which then leads to action. Peter Senge (1990) built on this concept in describing systems thinking when designing the Senge Feedback Loop (see Figure 2.2), where information, decision, action, and causality are not a linear process but loop and build upon each other. Reinforcing (or amplifying) and balancing (or stabilizing) can effect the movement of these loops. Throughout the process, the information that is sought by the leader can have a direct influence on either reinforcing or balancing this decision or perspective (Senge & Sternman, 1992).

Figure 2.2

Senge's Feedback Loop



Note: Adapted from "The Fifth Discipline" by Author Peter Senge (1990).

Forrester (1992) found that leaders/managers only used a small fraction of information that is available to them, although they had access to a large number of sources. This is unfortunate, because Soder (2001) explained that leaders are at an advantage when they have more relevant information. Burns (1978) explained that "perhaps policy makers could exert more influence if they had more and better information, but the cost of gaining that information, the time and resources spent is high" (p. 405).

Chapter Summary

In the last 20 years, education policy has become of interest to researchers. There is a great deal of literature in the area of education policy and reform that concludes a need for changes in the education system within the United States. Research clearly shows that the performance of students in the United States has lost its competitive edge against numerous countries with strong education systems. A growing body of research exists in leadership behavior and policy development, as well as research surrounding information behavior.

Specifically, this research explores how people search and seek information both formally and informally. However, no literature could be found in the area of information seeking sources specific to education policy making beyond two single-state research studies. Additionally, most literature found recommends a broader exploration of research information seeking sources of and influences on legislators in the arena of education policy (Gilligan, 1993; Canary, 2010; Canfield & Jain, 2010). Many researchers in this area use qualitative data, which show that policy makers seek information from their colleagues in the legislative body. It would be helpful to have quantitative data to support these earlier findings of the information seeking sources of education policy makers.

Chapter Three

Methodology

Bogdan and Biklen (2006) and Creswell (2009) explain that the most common methods of research design are quantitative and qualitative and mixed methods. Quantitative research involves data collection from a larger sample of a population in order to reveal what factors or variables influence an outcome (Creswell, 2009), therefore a quantitative non-experimental research method was utilized for the purposes of this research, since the outcome of this research is to build on the body of knowledge of information seeking sources for education policy makers. An online questionnaire was used to collect quantitative data for analysis to explore the information seeking sources of education policy makers and assess the research questions below within a cluster sample of 30 randomly selected legislators from each of the 50 United States.

The Research Questions

The role of the research question is focus for the purpose of the study (Creswell, 2009). The primary research question and secondary questions are articulated below, along with the null hypothesis (H_0) for each of the questions.

The Research Question

The primary research question is articulated below, along with the null hypothesis (H_0). Additional questions, hypotheses and null hypotheses will be addressed in Chapter Three.

Primary Research Question: Are there statistically significant differences in the frequency of use of different information sources between groups of education policy makers as they draft, deliberate and vote on education related bills?

Hypothesis: There are statistically significant differences in the frequency of use of different information sources between groups of education policy makers as they draft, deliberate

and vote on education related bills.

Null Hypothesis: There are no statistically significant differences in the frequency of use of different information sources between groups of education policy makers as they draft, deliberate and vote on education related bills.

Question One: Are there statistically significant differences in the frequency of use of different information sources between education policy makers who serve on education committees and those who do not serve on education committees as they draft, deliberate and vote on education related bills?

H_1: There are statistically significant differences in the frequency of use of different information sources between education policy makers who serve on education committees and those who do not serve on education committees as they draft, deliberate and vote on education related bills?

$H_{0\,1}$. There are no statistically significant differences in the frequency of use of different information sources between education policy makers who serve on education committees and those who do not serve on education committees as they draft, deliberate and vote on education related bills?

Question Two. Are there statistically significant differences in the frequency of use of different information sources between education policy makers who serve as chair or vice chair on education committees and those who do not serve as chair or vice chair on education committees as they draft, deliberate and vote on education related bills?

H_2. There are statistically significant differences in the frequency of use of different information sources between education policy makers who serve as chair or vice chair on

education committees and those who do not serve as chair or vice chair on education committees as they draft, deliberate and vote on education related bills?

$H_{0\,2}$. There are no statistically significant differences in the frequency of use of different information sources between education policy makers who serve as chair or vice chair on education committees and those who do not serve as chair or vice chair on education committees as they draft, deliberate and vote on education related bills?

Question Three. Are there statistically significant differences in the frequency of use of different information sources between male education policy makers and women education policy makers as they draft, deliberate and vote on education related bills?

H_3. There are statistically significant differences in the frequency of use of different information sources between male education policy makers and women education policy makers as they draft, deliberate and vote on education related bills?

$H_{0\,3}$. There are no statistically significant differences in the frequency of use of different information sources between male education policy makers and women education policy makers as they draft, deliberate and vote on education related bills?

Question Four. Are there statistically significant differences in the frequency of use of different information sources between education policy makers who identify themselves as Republican, Democrat or Other as they draft, deliberate and vote on education related bills?

H_4. There are statistically significant differences in the frequency of use of different information sources between education policy makers who identify themselves as Republican, Democrat or Other as they draft, deliberate and vote on education related bills?

$H_{0\,4}$. There are no statistically significant differences in the frequency of use of different information sources between education policy makers who identify themselves as Republican, Democrat or Other as they draft, deliberate and vote on education related bills?

Question Five. Are there statistically significant differences in the frequency of use of different information sources between education policy makers who identify themselves as Republican, Democrat or Other as they draft, deliberate and vote on education related bills?

H_{5}. There are statistically significant differences in the frequency of use of different information sources between education policy makers who identify themselves as Republican, Democrat or Other as they draft, deliberate and vote on education related bills?

$H_{0\,5}$. There are no statistically significant differences in the frequency of use of different information sources between education policy makers who identify themselves as Republican, Democrat or Other as they draft, deliberate and vote on education related bills?

Question Six. Are there statistically significant differences in the frequency of use of different information sources between education policy makers who have different levels of legislative experience as they draft, deliberate and vote on education related bills?

H_{6}. There are statistically significant differences in the frequency of use of different information sources between education policy makers who have different levels of legislative experience as they draft, deliberate and vote on education related bills?

$H_{0\,6}$. There are no statistically significant differences in the frequency of use of different information sources between education policy makers who have different levels of legislative experience as they draft, deliberate and vote on education related bills?

Question Seven. Are there statistically significant differences in the frequency of use of different information sources between groups of education policy makers who serve in different regions of the United States as they draft, deliberate and vote on education related bills?

H_7. There are statistically significant differences in the frequency of use of different information sources between groups of education policy makers who serve in different regions of the United States as they draft, deliberate and vote on education related bills?

H_{07}. There are no statistically significant differences in the frequency of use of different information sources between groups of education policy makers who serve in different regions of the United States as they draft, deliberate and vote on education related bills?

Question Eight. Are there statistically significant differences in the frequency of use of different information sources of education policy makers during the legislative session compared to outside of the legislative session as they draft, deliberate and vote on education issues.

H_8 There are statistically significant differences in the frequency of use of different information sources of education policy makers during the legislative session compared to outside of the legislative session as they draft, deliberate and vote on education issues.

H_{08}. There are no statistically significant differences in the frequency of use of different information sources of education policy makers during the legislative session compared to outside of the legislative session as they draft, deliberate and vote on education issues.

Population & Sample

Population. The population for this research included the 7,382 state legislators from throughout the United States. This population was selected based on the research that indicated that individual state legislators have the greatest amount of power in education policy (Marshall et. al, 1989). According to the National Conference of State Legislators, state legislatures are

designed to represent the constituents in policy development and as a whole, legislators around the country experienced a transition in the 1960's and 1970's when they were making efforts to become more effective in representation and making government more efficient. The National Conference of State Legislatures (2013) reports that there are a total of 7,382 legislative seats throughout the United States; 24% of legislators are women, and 50% are between the ages of 50-64 years, with only 3.8% between the ages of 20 and 34 years. Numbers of legislators per state and terms of service vary, depending on each state's constitution, ranging from 2-4 year terms.

Sample. In an effort to gain representation from each of the 50 states, a cluster sample of thirty randomly selected legislators from each of the United States was used. The National Conference of State Legislators provided the randomly selected cluster sample in a list of members who served in the 2013 legislative session and their email contact information. This random sample was produced by the database of legislators maintained by the National Conference of State Legislators. The original sample of 1500 (30 from each of the 50 states) education policy makers represented 20.3% of the total population of 7,382 legislators. Invitations to participated were sent to this list, and an actual sample of 194 legislators selected to respond, creating a sample size of 194 or 2.6% of the total population.

Data Collection

Each participant was contacted via email with a brief description of the study and a solicitation to participate (Appendix A), along with a link to an online questionnaire designed by the researcher (Appendix B). Two reminder emails were sent at 10-day intervals as follow up to encourage participation. Internet research protocol was used according to Odwazny and Buchanan (2012), which included recognition of Institutional Review Board protection of

participants and informed consent of minimal risks. Confidentiality was of utmost importance to the researcher and was explained to the participants in the introductory letter (see Appendix A). The survey responses were anonymous, there were no names connected to the responses. The instrument was built using Survey Select, an online survey tool that also collect the data. Once the data were collected, it was exported to an Excel spreadsheet, then analyzed utilizing SPSS.

Reliability

Reliability of a measurement is the likelihood that the measurement is free from random error and that the items used in measurement are consistent in measuring the same underlying attribute. Thus, if retested, the same results would be found (Pallant, 2010). Results from a Chronbach's Alpha test revealed a level of .99, which indicates a high level of reliability. Generalizability was established with a confidence level of 84% by analyzing the sample (n=194) and the total population N= 7,382.

Validity

In research, validity refers to the likelihood that the interpretation of the test matches the purpose of the test, or that an instrument measures what it is supposed to measure (Creswell, 2012; Gall, Gall & Borg, 2009). Content validity assesses whether the intended measure from the questionnaire actually reflects the intended construct. Criterion validity explores the measurability of the specific criterion being investigated. The instrument (Appendix B) was designed by the researcher and was based on the previous work of Canfield-Davis and Jain (2010), Fowler (2009) and the National Conference of State Legislatures (2012). The data collected included background information of the participants (independent variables), as well as different sources of information they might use to prepare themselves to draft, deliberate, or vote on education policy issues (dependent variables). The independent variables were selected

because they were listed as characteristics of legislators by numerous sources of research (Canfield-Davis & Jain, 2010; Carey, 2009; Erickson, McGiver & Wright, 1987; Fowler, 2009; National Conference of State Legislatures, 2012; Poggione, 2004). The dependent variables, or sources of information were selected based on previous research including factors of influence in legislative decision-making (Canfield-Davis & Jain 2010; Carey, 2010; Kingdon, 1977; Mazzoni, 1993; Ringe, Victor & Gross, 2009). Table 3.1 illustrates how the instrument was designed based on previous research by connecting each question to previous research.

Table 3.1

Instrument Validity: Design Based on Literature Review

Concept	**Question**	**Source**
Independent Variables/ Demographics	How many years have you served as a legislator?	Canfield-Davis, 2010; Fowler, 2009; NCSL (2012)
	Are you: Male/Female?	Canfield-Davis, 2010; Fowler, 2009; NCSL (2012)
	In what state do you serve?	Canfield-Davis, 2010; Fowler, 2009; NCSL (2012)
	Do you serve on an education committee?	Canfield-Davis, 2010; Fowler, 2009; NCSL (2012)
	Do you serve as chair or vice chair of an education committee?	Mazzoni, 1993
	Are you: Republican, Democrat, Other?	Canfield-Davis, 2010; Fowler, 2009; NCSL (2012)
	Would you consider your legislature to be citizen (part time) or professional (full time)?	Squire, 2007
Dependent/Outcome Variables	Using the following scale of 1-7, how frequently do you seek information from the following sources when you are preparing to **draft/develop** a bill regarding education policy?	Fowler, 2009
	Using the following scale, how frequently do you seek information from the following sources when you are preparing to **deliberate** on a bill regarding education?	Fowler, 2009
	Using the following scale, how frequently do you seek information from the following sources when you are preparing to **vote** on a bill regarding education?	Fowler, 2009
	Are you more likely to seek information or be available to receive information from any of the following sources **during the legislative session**?	Squire, 2007

	Are you more likely to seek information or be available to receive information from any of the following sources **outside of the legislative session**?	Squire, 2007
	Information Sources	Beyle, 2001; Beyle, 2001Canfield-Davis & Jain, 2010; Fowler, 2009; Hall & Deardorff, 2006; Keese, 1990; Kingdon, 1977; Marshall, Mitchell & Wirt, 1989
Model/Method	Likert type quantitative scale measurement using 1-7 scale	Canfield-Davis & Jain (2010)

During the instrument design process, two state legislators from the State of Montana were consulted by the researcher and both gave input regarding clarity of the survey from a legislator's perspective. They recommend terminology that would be understandable to legislators while also accounting for accuracy of the definition of terms based upon previous research.

The instrument was piloted by seven legislators from the State of Montana who had retired within the past two years. An electronic questionnaire was sent with the independent variables on a drop down list, and the dependent variables, or information-seeking sources, described later in this chapter, were on Frequency type scales of 1-7 indicating frequency of use. Of the seven legislators, four were female, and three were male. After an invitation email explaining the pilot and research was sent, two follow up reminders were sent, because only one legislator responded within the first two weeks. After three weeks, a total of six took the survey, five gave no suggestions for changes for the survey indicated that it was understandable, clear and recommended no changes. One legislator made comments and gave suggestions to the researcher, these suggestions included:

- Clarification of the difference between deliberate and vote
- "We don't do anything <u>daily</u> in the legislature."

The three stages of bill development (Fowler, 2009) were kept in the instrument since none of the other five legislators brought up a need for clarification. Because of the nature of the frequency scale, the researcher decided to keep "daily" in the instrument as a reference for participants. Based on the feedback from the pilot group, specifically that 5 of the 6 pilot group members indicated that no changes be made, the researcher elected not to change any content of the original instrument because there were few recommendations for change and those that were recommended were inconsistent with previous research.

Levels of Data

The survey (see Appendix B) included questions involving the participant's background (gender, political party affiliation and geographic region) and legislative experiences (education committee membership, leadership role on education committee, years of experience and type of legislature). A Frequency scale was used to determine the frequency of which legislators used different sources of information at the ordinal level, and a seven level response scale was utilized (1=Never utilized, 7=Utilized daily).

Nominal data collected included gender, political party affiliation, geographic region, education committee membership, and education committee leadership roles (chair/vice chair or not chair/vice chair). Years of experience were captured as an ordinal measure.

Variables

The primary research question addressed in this study was: What are the information seeking sources used by state legislators across the United States when preparing to develop, deliberate, or vote on education issues? Gall, Gall and Borg (2010) explain that independent variables are a quantitative measure of a construct that can be manipulated or changed to explore the statistically significant relationship or differences between a dependent variable, or outcome.

The independent variables were:

- Education Committee Membership
    - Member
    - Not a Member
- Education Committee Leadership
    - Chair or Vice Chair
    - Not Chair or Vice Chair
- Gender
    - Male
    - Female
- Legislature Type
    - Citizen
    - Professional
- Party Affiliation
    - Republican
    - Democrat
    - Other
- Experience Levels
    - 0 years
    - 1-5 years
    - 6-11 years
    - 12+ years
- Geographical Region

    - Eastern
    - Midwest
    - Southern
    - Western
- Stages of Bill Development
    - Drafting
    - Deliberation
    - Voting
- Availability of Legislator for Acquiring Information
    - During the Legislative Session
    - Outside the Legislative Session

The dependent, or outcome variables assessed in these analyses were identified in previous research as sources of information with influence over education policy (also referred to as education policy actors) (Fowler, 2010):

- Colleagues
- Constituents
- Executive Branch (Governors or Chief State School Officers)
- Leadership/Caucus
- Media
- Performance Information/Legislative Staff
- Professional or Special Interest Organization/Lobbyists
- School Personnel
- Think Tanks

- Other

Statistical Procedures

Multiple statistical procedures were used to analyze the data for this study. Frequencies were used to describe the sample, such as number of education committee members and education committee chairs/vice chairs, males and females, Republicans and Democrats, members of professional legislatures or citizen legislatures, members from different geographical regions and experience level groups. Comparisons of nonparametric outcomes across the groups that composed each of the independent samples were conducted using Kruskal-Wallis according to Pallant (2010) and Green and Salkind (2005). Mann-Whitney tests were used as post hoc analysis when more than two levels of independent variables were present, as with the four groups of experience levels and the four regions of the United States. For these post hoc analyses, a modified alpha level of .012 was established according to the Bonferroni Adjustment (Pallant, 2010) by dividing the original alpha level of .05 by the number of tests (four) to account for inflated Type I error rates. The Wilcoxon test was used to assess statistically significant differences in education policy makers information seeking sources during the legislative session compared to outside the legislative session, as the data were repeated measures collected from the same individual.

Statistical Significance

Statistical significance is a concept used in inferential statistics to minimize the likelihood that the results of an analysis were purely due to chance. The level of statistical significance for this research was set a priori at an alpha level of .05 (Huck, 2008). Alpha levels are listed throughout the results section.

Assumptions

Inferential statistics use sample data and assumptions are made based on the data to establish which statistical analysis are best suited for the research (Hahn & Meeker, 1993). The following assumptions (Pallant, 2010) were made for the analyses of the nonparametric data for this research:

Random Sample. A stratified sample of 30 randomly selected legislators from each of the 50 United States was provided to the researcher using the database of the National Conference of State Legislators, for a total of 1500 legislators.

Independence. Each participant was only counted once, but the data collected regarding the availability of the legislator (during or outside the legislative session) were asked of the same person, resulting in repeated measures. Therefore, a Wilcoxon test was used to analyze these data.

Chapter Summary

The method for this quantitative research included carefully collected data using a researcher-designed online questionnaire of a cluster sample of 30 state legislators from each of the 50 United States. Data collected included background of legislators as well as information seeking sources of these education policy makers throughout the three stages of bill development; drafting, deliberation, and voting on issues regarding education policy. Descriptive analyses of the sample included frequencies of nominal and ordinal data and analysis of the statistically significant differences between independent samples included the Kruskal-Wallis, Bonferroni, Mann-Whitney Signed Rank tests, and for repeated measures of the same sample, the Wilcoxon test was utilized.

Chapter Four

Findings

This study examined the information seeking sources of education policy makers, specifically state legislators from across the United States. The analyses addressed the sources of information most frequently used during three specific stages of bill development- drafting, deliberation and voting - across several independent variables. Data were collected and analyzed from 194 state legislators representing 42 states. This chapter will first describe characteristics of the sample based on descriptive data, and will then show the results of the analysis of data.

Descriptive Analyses of the Sample

The email invitation to participate (see Appendix A) was sent in January 2013, a time during which many legislatures were just beginning a new session, to a randomly selected cluster sample of 30 legislators from each state, for a total of 1500 legislators. Two follow-up emails were sent over the course of the following four weeks to remind potential participants of their opportunity to participate. A total of 194 (13%) state legislators completed the survey, representing 42 of the 50 United States. No education policy makers from the following states choose to participate in this study: California, Florida, Hawaii, Illinois, Indiana, Montana, Nevada nor Ohio.

A frequency analysis of the independent variables was used to explore the sample. Of the legislators reporting, 64 (33%) were serving on education committees. Among the actual sample, 21 of the 194 respondents (11%) served as chair or vice chair of an education committee, and 43 (22% of total sample, 67% of the education committee member sample) served on an education committee but not as chair of vice chair. The sample was predominantly male (n=146, 80%), included primarily Republicans (n=120, 62%) and Democrats (n=69, 36%), and largely

comprised of citizen (n=163, 84%) rather than professional (n= 28, 14%) legislators. Most of the legislators had 1-5 years (n=86, 44%) of experience, with the remaining legislators reporting 6-11 years (n=36, 36%), 12 or more years (n=41, 20%), or no completed years of experience (n=28, 14%). The sample was divided into four geographic regions according to the National Conference of State Legislatures (see Appendix C for listings of states in each region), and consisted of 52 legislators (27%) from eastern states, 42 (22%) from southern states, 37 (19%) from the midwest, and 60 (31%) from the west. Cross-tabulation analyses found that over half of the females in the sample were from the Western Region of the United States (20 of 37 or 54%).

Descriptive Analysis of the Data

Data revealed that females with over 6 years experience had a much lower mean (1.7) of frequencies in seeking information from colleagues than males or females in any of the experience levels, where overall, a mean of 5.4 was shown (please note that the sample size for 12+ years and females was only n=3). Western region education policy makers with 12+ years of experience showed a mean of 4.6 on the frequency scale compared to an overall mean of 2.9 with think tanks as the source.

Inferential Analyses

The Kruskal-Wallis, Bonferroni adjustment, Mann-Whitney, and Wilcoxon tests were utilized to explore the statistically significant differences in information seeking sources for this research, as the data analyzed were non-parametric, ordinal or rank level, and not normally distributed in the seven-level Frequency type scale (1=Never utilized, 7=Utilized daily). The Kruskal-Wallis, Bonferroni adjustment, and Mann-Whitney tests were used to analyze the statistically significant differences between independent samples or groups, and the Wilcoxon

test was utilized for repeated measures of the same group (Green & Salkind, 2005, McDonald 2009), during and outside of the legislative session.

Kruskal-Wallis Tests were used to analyze nominal or ordinal/ranked levels of nonparametric data from the independent samples (Green & Salkind, 2005; McDonald, 2009; Pallant, 2010), and are the non-parametric analogs to the ANOVA statistical analysis. Statistically significant differences are reported in mean ranks and medians with central tendencies expressed in chi-square test results or effect size indices (by subtracting medians) for the Wilcoxon test (Green & Salkind, 2005 Pallant, 2010).

Independent Variables

For the purposes of this study, the independent variables were:

- Education Committee Membership: Member or Not a Member
- Education Committee Leadership: Chair/Vice Chair or Not
- Gender: Male or Female
- Legislature Type: Citizen or Professional
- Party Affiliation: Republican, Democrat or Other
- Experience Levels: 0, 1-5, 6-11, or 12+ years
    - These group levels were established by the researcher after data collection as manageable levels of data analysis.
- Geographical Region: Eastern, Southern, Midwestern, or Western
- During or Outside the Legislative Session

Dependent Variables

For all of the inferential data analyses, the sources of information used by legislators were the dependent variables. Participants were asked to indicate on a non-parametric Frequency

type scale of 1-7 (1=never, 7=daily) to indicate how frequently they sought information from each of the following sources:

- Colleagues/Other Legislators
- Constituents
- Executive Branch
- Leadership/Caucus
- Legislative Staff
- Lobbyists
- Media
- School Personnel
- Think Tanks
- Other sources

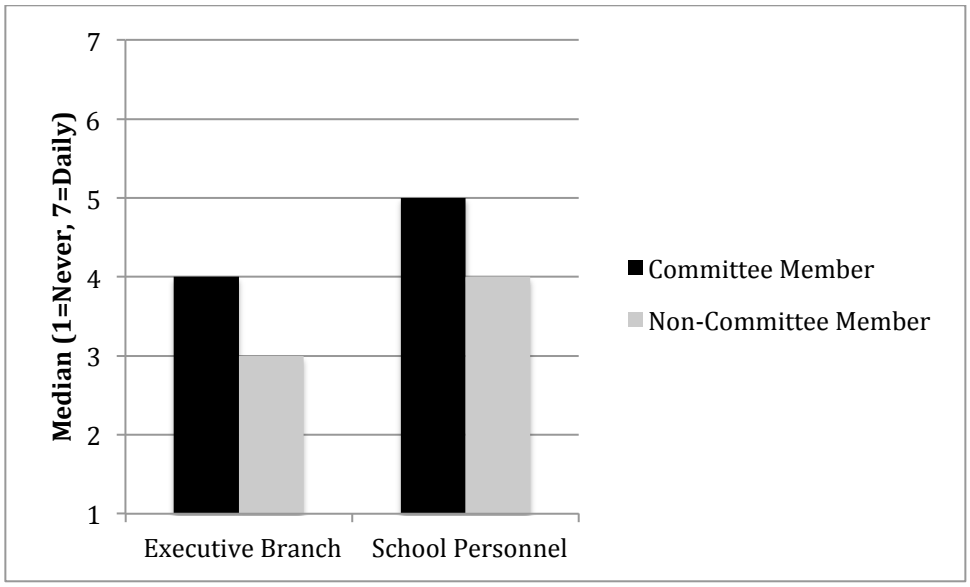
Independent Variable 1: Education Committee Membership.

The Kruskal-Wallis test was utilized for analysis of the statistically significant differences between the information seeking sources of education committee members and non-education committee members. The Kruskal-Wallis test is used for nonparametric data, in this case nominal, and independent samples (Pallant, 2010; Green & Salkind, 2005). The analysis was utilized three separate and individual times: one analysis explored the statistically significant differences during the drafting stage of bill development, the next analyzed data during deliberation, and the third analysis was utilized for the voting stage of bill development. No statistically significant differences in information seeking sources were indicated during the drafting or voting stage of bill development. During deliberation, analysis revealed statistically significant differences in information seeking sources between education committee members

(n=62) and non-committee members (n=118). Analyses showed that committee members reportedly sought information more frequently from the executive branch x^2 (1, n=182)=7.42, p=.010 and school personnel x^2 (1, n=179)=4.86, p=.030 than non-committee members (see Figure 4.1.2 for median comparisons). No other statistically significant differences in information source usage during deliberation were found for the independent variable education committee membership.

Figure 4.1.1

Information Seeking Sources during Deliberation by Education Committee Membership



Independent Variable 2: Education Committee Leadership

Statistically significant differences between education committee chairs or vice chairs (n=21) and those who did not serve as committee chairs or vice chairs (n=163) were explored using three separate Kruskal-Wallis tests, one for each stage of bill development. This method was selected because there were two independent samples and the data were nonparametric. Analyses showed that respondents who were education committee chair or vice chair sought information more frequently from the executive branch, legislative staff, and think tanks

compared to non-education committee chair or vice chair during all three stages of bill development. Think tanks were utilized more frequently by committee chairs and vice chairs during drafting and voting stages of bill development (results are shown on Table 4.2.1, and Figures 4.2.1, 4.2.2, and 4.2.3).

Table 4.2.1

Information Seeking Sources for Education Committee Chair/Vice Chairs

Stage & Source	Chair/ Vice	n	Mean Rank	P	Chi sq	df	Median
DRAFTING							
Executive				<.001	10.78	1	
	Y	21	119				4
	N	152	83				3
Staff				<.001	4.14	1	
	Y	18	108				6
	N	153	83				5
Think Tank				.042	5.47	1	
	Y	21	109				3
	N	150	83				3
DELIBERATION							
Executive				<.001	13.39	1	
	Y	20	125				4
	N	154	83				3
Staff				.035	4.45	1	
	Y	19	109				5
	N	153	84				4
VOTING							
Executive				.011	6.42	1	
	Y	20	110				4
	N	148	81				3
Staff				.042	4.21	1	
	Y	20	105				5
	N	148	82				4
Think Tank				.023	5.17	1	
	Y	20	106				3
	N	146	80				2

Figure 4.2.1

Information Seeking Sources during Drafting by Education Committee Chair Status

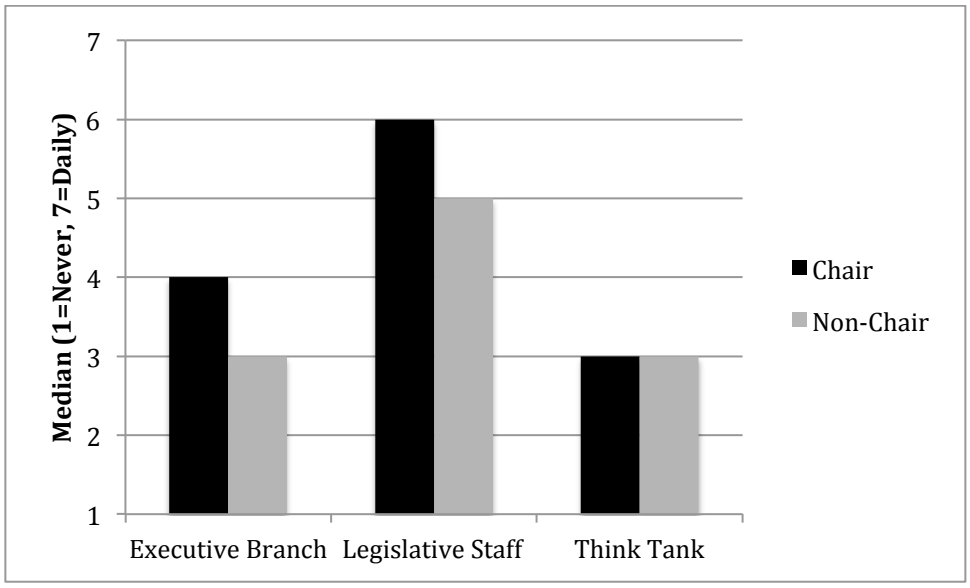


Figure 4.2.2

Information Seeking Sources during Deliberation by Education Committee Chair Status

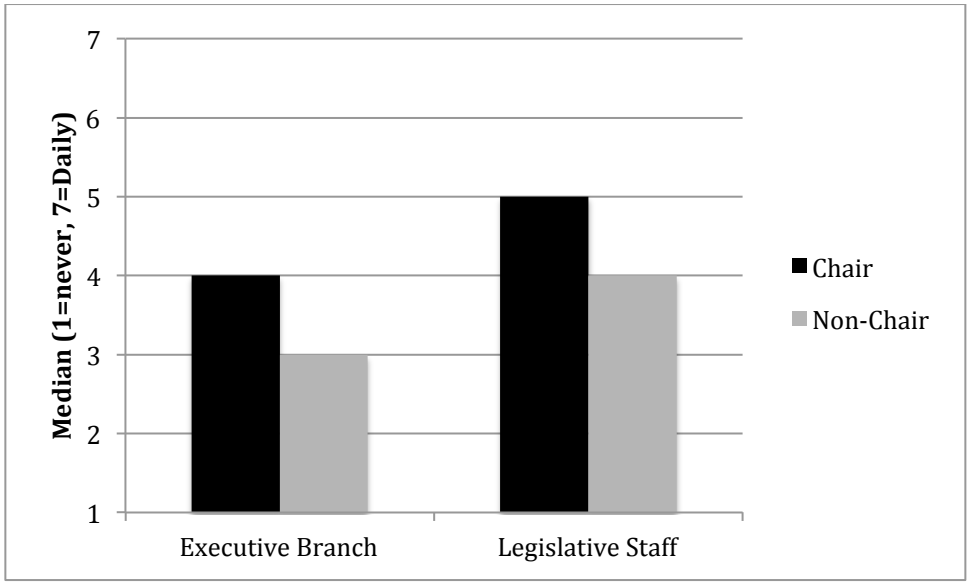
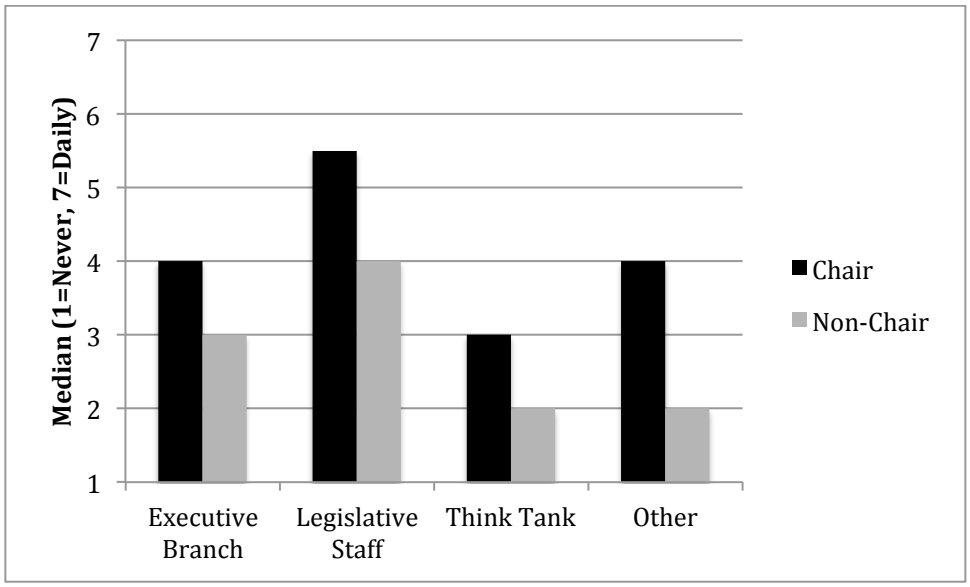


Figure 4.2.3

Information Seeking Sources during Voting by Education Committee Chair Status



Independent Variable 3: Gender

Analyses of the statistically significant differences between men and women utilized the Kruskal-Wallis tests because the genders were independent samples and the data collected were nonparametric. Three separate and individual Kruskal-Wallis tests were done, one for each of the three stages of bill development: drafting, deliberation, and voting. This method revealed that men (n=136) were more likely to seek information from the executive branch while drafting, $x^2(1, n=172)=11.36$, p=.010 and deliberating $x^2(1, n=163)=4.25$, p=.040 than women (n=36). Statistical significance was also indicated with analysis of the dependent variable other (see Table 4.3.1 and Figure 4.3.1 for results). No other statistically significant differences were found.

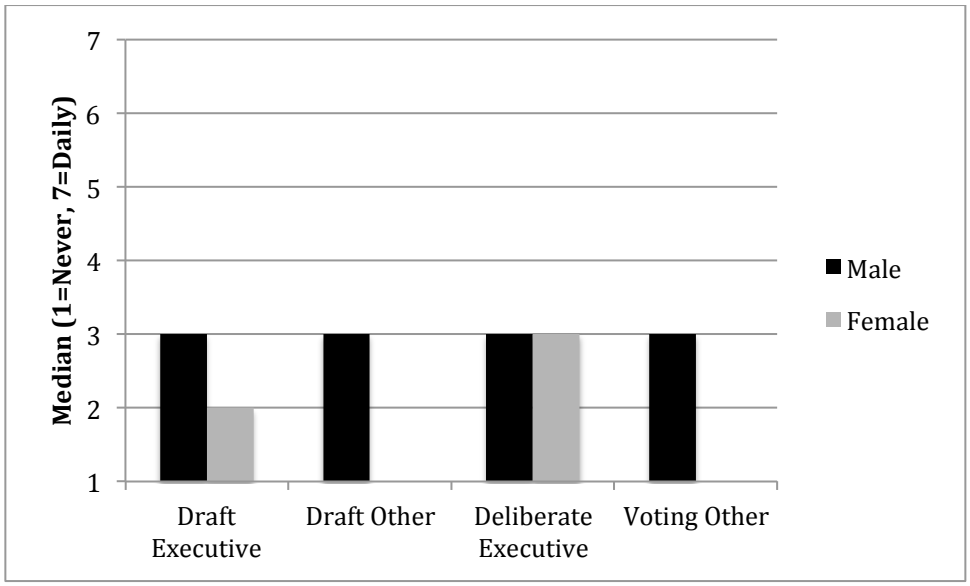
Table 4.3.1

Information Seeking Sources by Gender

Stage & Source	Gender	n	Mean Rank	P	Chi sq	df	Median
DRAFTING							
Executive				.010	11.36	1	
	M	136	93				3
	F	36	62				2
Other				.019	5.40	1	
	M	102	65				3
	F	20	45				1
DELIBERATING							
Executive				.039	4.25	1	
	M	137	91				3
	F	36	72				1
VOTING							
Other				.003	8.76	1	
	M	90	60				3
	F	21	38				1

Figure 4.3.1

Information Seeking Sources by Gender



Independent Variable 4: Party Affiliation

Party affiliation was defined as Republican (n=120), Democrat (n=69), and other (n=1); due to the single response in the "other" group, that respondent was excluded from this analysis as has been suggested in other research (Green & Salkin, 2005). The Kruskal-Wallis test was used to analyze the statistically significant differences between these groups because they were independent samples and the data collected were nominal level or nonparametric. Three separate and independent tests were run, one for each of the three stages of bill development: drafting, deliberation, and voting. The results indicated that Democrats used party leadership as a source of information more frequently than Republicans at all three stages of bill development (for results see Table 4.4.1 and Figure 4.4.1). Additionally, analyses indicated that Democrats were more likely to report using media as an information source than Republicans when drafting (p=.035) and voting (p=.033) on education bills. During the voting stage of bill development, data indicated that Democrats use school personnel more frequently than Republicans (p=.027) (for results see Figure 4.4.1).

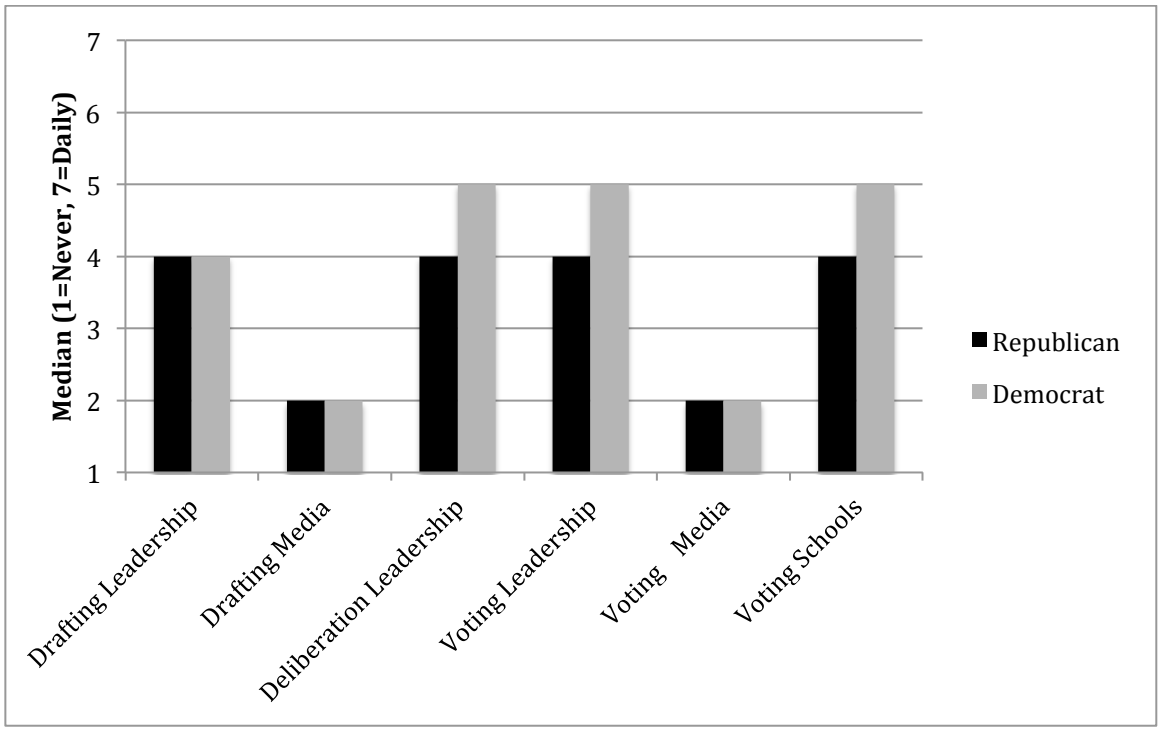
Table 4.4.1

Information Seeking Sources by Party Affiliation

Stage & Source	Party	n	Mean Rank	P	Chi sq	df	Median
DRAFTING							
Leadership				.007	7.15	1	
	Republican	115	83				4
	Democrat	66	104				4
Media				.035	4.47	1	
	Republican	116	84				2
	Democrat	63	101				2
DELIBERATION							
Leadership				.004	8.42	1	
	Republican	115	83				4
	Democrat	68	106				5
VOTING							
Leadership				.007	7.38	1	
	Republican	112	81				4
	Democrat	64	102				5
Media				.033	9.1	1	
	Republican	110	79				2
	Democrat	64	101				2
School				.027	4.91	1	
	Republican	109	81				4
	Democrat	65	98				5

Figure 4.4.1

Information Seeking Sources during Drafting by Political Party



Independent Variable 5: Type of Legislature

For the analysis if the independent variable type of legislature, the two independent samples were professional legislators (n=28) and citizen legislators (n=163). The Kruskal-Wallis test was used because these were two independent groups and the data collected were nonparametric. Three separate analyses were used for each of the three stages of bill development: drafting, deliberation, and voting. Analyses suggested no statistically significant differences in the information seeking sources between these two groups.

Independent Variable 6: Experience Levels

Education policy makers were divided into four ordinal level categories based on years of experience: 0 years (n=28), 1-5 years (n=86), 6-11 years (n=36) and 12 or more years (n=41). First a Kruskal-Wallis test was run for the four samples because these groups were independent

samples and the dependent variable data collected were nonparametric. If statistical significance was indicated in any of the analyses, Mann-Whitney tests were then run to find which comparisons were statistically significant (Pallant, 2010). In order to control for Type I errors, the Bonferroni adjustment was applied to establish a new alpha level. The procedure was to divide the original alpha level of .05 by the number of Mann-Whitney tests to be run (four) according to Pallant, 2010, for a new alpha level of .012. These statistical analyses were performed three separate times, one for each of the three stages of bill development.

The data indicated statistically significant differences between education policy makers with less than one year of experience to those with over 12 years of experience at the drafting, deliberation, and voting stages of bill development (see Table 4.6.1 and Figure 4.6.1 for results). Less experienced legislators were more likely to seek information from constituents than the more experienced groups.

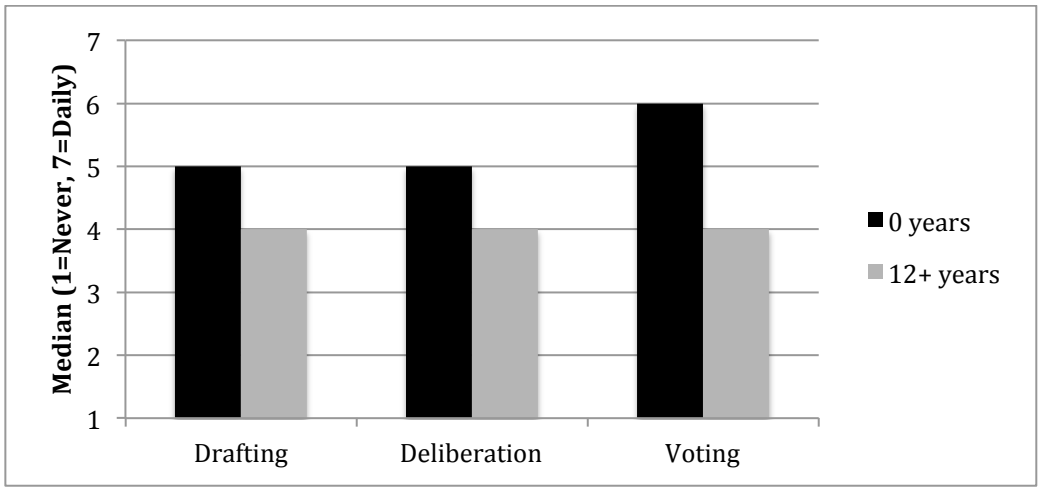
Table 4.6.1

Constituents as Information Seeking Source by Experience Level

Bill Stage	**Experience**	**Z**	**p**	**Mean Rank**	**Median**
Drafting		-3.66	<.001		
	0 years			42	5
	12+ years			26	4
Deliberation		-3.10	<.001		
	0 years			41	5
	12+ years			26	4
Voting		-3.65	<.001		
	0 years			42	6
	12+ years			25	4

Figure 4.6.1

Constituents as Information Seeking Source by Experience Level



Independent Variable 7: Geographic Region

Education policy makers were divided into four independent groups based on geographic regions according to NCSL (2013): Eastern (n=52), Southern (n=42), Midwestern (n=37) and Western (n=60) (see Appendix C for states in each region). The Kruskal-Wallis test was utilized because these groups were independent and data were nonparametric. Three separate analyses were run, one for each stage of bill development. Since the Kruskal-Wallis would only show if statistical significance existed in one or more relationships within the comparisons of these groups as a whole, and it would not identify exactly what two groups showed statistical significance, a post-hoc Mann-Whitney was utilized between groups to see which comparisons had significance. A Bonferroni adjusted alpha level of .012, used to control for Type I errors, was established by dividing the original alpha level of .05 by the number of Mann-Whitney tests run (four) (Pallant, 2010). These analyses showed statistically significant differences of information seeking sources between education policy makers in eastern regions compared to those in western regions, see Table 4.7.1 for results.

Table 4.7.1

Information Seeking Sources for Regions

Source	Region	p	Mean Rank	Median
DRAFTING				
Colleague		.007		
	Eastern		45	4
	Western		61	5
DELIBERATION				
Colleague		.006		
	Eastern		45	4
	Western		61	6
Constituent		.010		
	Eastern		45	4
	Western		62	5
VOTING				
School		.011		
	Eastern		44	4
	Western		58	5

Independent Variable 8: During or Outside the Legislative Session

The Wilcoxon test was used to compare information seeking sources for education policy makers during versus outside of the legislative session. The data were nonparametric and were collected as repeated measures from the same individuals. Statistically significant differences for information seeking sources were found for each of the ten dependent variables (see Table 4.8.1 for results and Figure 4.8.1 for graphic comparisons). The largest effect size indices, calculated by subtraction of the median values (Green & Salkind, 2005), indicated that during the legislative session information was sought more frequently from colleagues, $z=-9.31$, $p=<.001$ with an effect size index of 2, and leadership, $z=-9.45$, $p=.010$ and effect size index of 2. Data analysis indicated that during the legislative session the following sources of information were more frequently sought with an effect size index difference of 1: constituents ($p<.001$), executive

(p<.001), staff (p<.001), lobbyists (p<.001), school personnel (p=.002), and think tanks (p=.025) (for results see Table 4.8.1 and Figure 4.8.1).

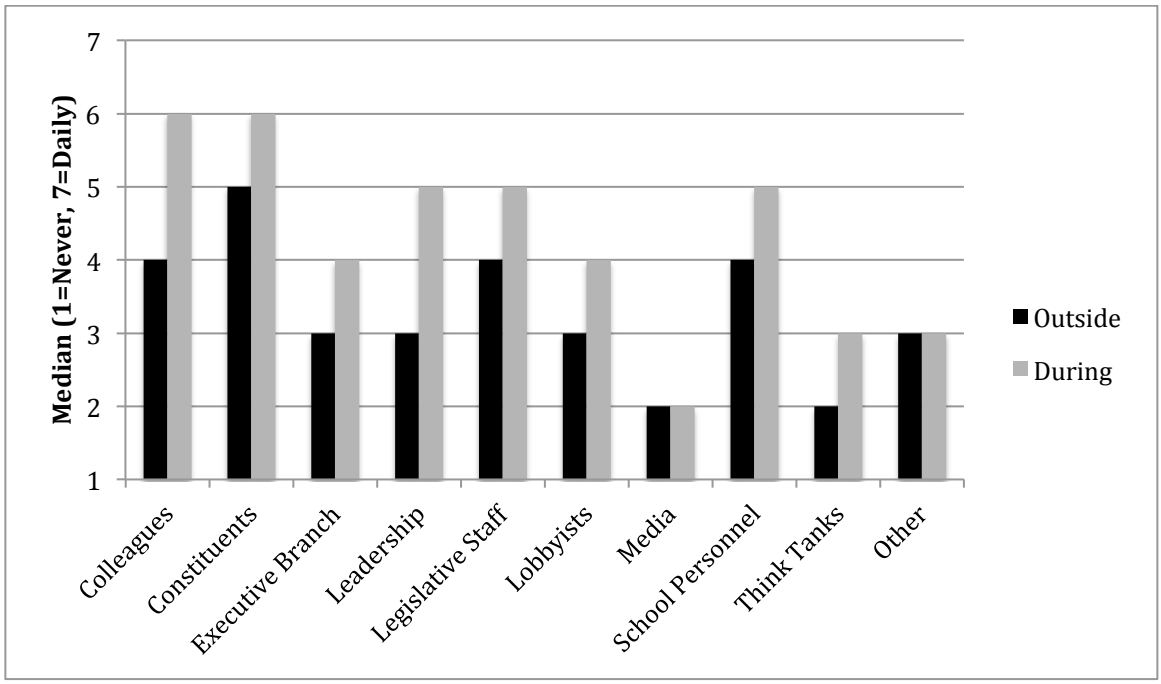
Table 4.8.1

Information Seeking Sources for During and Outside Legislative Session

Source	**Setting**	**Mean Rank**	**p**	**Median**	**ES index**
Colleagues	Outside	70-	<.001	4	2
	During	30+		6	
Constituents	Outside	48-	<.001	5	1
	During	35+		6	
Executive	Outside	51-	<.001	3	1
	During	33+		4	
Leadership	Outside	59-	<.001	3	2
	During	22+		5	
Staff	Outside	50-	<.001	4	1
	During	34+		5	
Lobbyist	Outside	59-	<.001	3	1
	During	33+		4	
Media	Outside	40-	.049	2	0
	During	33+		2	
School	Outside	51-	.002	4	1
	During	40+		5	
Think Tank	Outside	71-	.025	2	1
	During	35+		3	
Other	Outside	18-	<.001	3	0
	During	15+		3	

Figure 4.8.1

Information Seeking Sources During and Outside Legislative Session



Chapter Four Summary

With 194 education policy makers responding to the electronic survey emailed to them, responses from a sample of the population were analyzed using non-parametric data analysis techniques. Kruskal-Wallis, Mann-Whitney, Bonferroni and Wilcoxon analyses were utilized, depending upon the type of data. Statistical significance was found in numerous comparisons between independent sample groups and repeated measures of the same group. Chapter Five will discuss these findings, explore the data analysis, compare it to the literature review, and discuss implications for both political and educational practitioners and researchers.

Chapter Five

Discussion

The main purpose of this study was to explore the information seeking sources of education policy makers. Education is the cornerstone of a healthy democracy and economy (Ahladeff & Goodlad, 2008) and in recent years, the United States has been losing the educational advantage previously held in comparison with other countries (PISA, 2009). Policies that are decided by well informed legislators and education professionals can best serve the educational system.

This chapter presents a summary of the findings from this study, including descriptions in relation to each of the independent variables. The dependent variables will be discussed in context of the existing literature and interpretation of the data analyses. Recommendations for policy makers, education practitioners and other stakeholders, as well as further research will also be presented.

The research presented in this study supports the hypothesis that when drafting, deliberating, or voting on education policy bills, there are statistically significant differences between the use of various sources of information among education policy makers. Additional secondary hypotheses are supported and discussed throughout the chapter.

Summary of Findings

Analyses from this research indicated statistically significant differences in the information seeking sources between groups associated with education committee membership, education committee leadership roles, gender, party affiliation, years of experience, geographic regions and timing of the legislative session (in session or out of session). A more detailed

discussion of the findings for each of the proposed research questions and each of the dependent variables follows below.

Education Committee Membership. The first research question inquired as to whether legislators who are members of education committees have different information seeking sources than legislators who are not members of education committees. The results of these analyses suggested that education committee members were more likely to seek information from the executive branch and school personnel during the deliberation stage of bill development. No other statistically significant differences were indicated during any other stage of development.

Education Committee Leadership. Question two explored how information seeking might differ between those that served as education committee chairs/vice chairs compared to non-chairs among those legislators on education committees**.** The analysis of these data indicated that at all three stages of bill development, education committee chairs and vice chairs were more likely to seek information from the executive branch and legislative staff than non-chairs/vice chairs. During the drafting and voting stages, education committee chairs and vice chairs were more likely to seek information from think tanks than non-chairs/vice chairs.

Gender. The third question inquired as to whether or not there were differences between men and women's information seeking sources. Data analysis indicated that male education policy makers were more likely to seek information from the executive branch while drafting and deliberating and from other sources while deliberating and voting than females.

Citizen and Professional Legislatures. The next question compared citizen legislators and professional legislators. There were no statistically significant findings from the data analysis regarding professional legislators vs. citizen legislator's information seeking sources.

Party Affiliation. Question five explored the differences between education policy makers' information seeking practices depending on their party affiliation. Democrats indicated that they were more likely to use party leadership as an information source during all three levels of bill development (drafting, deliberation, and voting). Additionally, Democrats were more likely to seek information from media sources than Republicans. Democrats were also more likely to seek information from school personnel during the voting stage of bill development.

Experience Levels and Information Seeking. Education policy makers were divided into four levels of experience, less than 1 year, 1-5 years, 6-11 years, and 12+ years, and the data were analyzed to explore differences in information seeking based on the number of years of legislative service. Less experienced legislators, specifically those with less than one year of service, indicated a higher likelihood to seek information from constituents than legislators with 12 or more years of experience.

Geographic Regions. Education policy makers were divided into four regions from throughout the United States: eastern, southern, midwestern and western. When information seeking sources was analyzed comparing education policy makers from each of these regions, statistically significant differences between those from eastern and western regions were revealed. Education policy makers from western states indicated a higher usage of colleagues than eastern states at both the drafting and deliberation stages.

During or Outside the Legislative Session. The last question explored the differences in information seeking for education policy makers during the legislative session and outside the legislative session. All data analyses showed a statistically significant difference in the usage of each source for legislators during compared to outside of the legislative session.

Sources of Information: The Literature Review and Interpretation of the Findings

Colleagues. The literature review suggests that in the past, education policy makers, as well as other professionals, have been more likely to seek information from their colleagues (Chatman, 1999; Gilligan 1993; Janis, 1972; O'Reilly, 1982) more than any other source. Contrary to previous literature, this research indicated that both during and outside of the legislative session, education policy makers reportedly sought information most frequently from constituents, and the second most frequent source was colleagues. The findings in this research are contrary to what was found in the literature review; one reason for this could be that participants self-reported in this study, so it is possible that education policy makers felt obliged to seek information from constituents first, and perhaps did not want to claim to be influenced by their colleagues.

Constituents. Kingdon (1977) and Keese (1990) found that legislators were more likely to be influenced by colleagues more so than external sources, which indicates conflicting findings with the results of this research. This research indicates that education policy makers reportedly sought information most frequently from constituents both during and outside the legislative session. Additional literature in information seeking sources (Chatman, 1999; Gilligan 1993; Janis, 1972; O'Reilly, 1982) suggests that colleagues would be the source most frequently sought. As mentioned above, the research design was self-reporting and not based on observations of education policy maker's behavior, which could be a reason for these inconsistencies.

Executive Branch. Data analysis indicated that men, when compared to women, and education committee chairs/vice chairs, when compared to non-chairs/vice chairs, were most likely to seek information from the executive branch. Committee chairs have a great deal of influence over establishing the agenda for education legislation. If communication between the

governor or chief school officer and education committee leadership is strong, establishing priorities in a collaborative way to help develop a fluid legislative process could benefit schools and therefore benefit children. The executive branch is responsible for developing the initial budget proposal that goes before the legislature, therefore much discussion and justification of bills is supported by arguments from the executive branch.

Data analysis indicated that men seek information from the executive branch more than women. The relationship between political actors is complex as are the behavior differences of men and women. Literature shows that female legislators are more likely to be collaborative than their male counterparts who work more independently and can be more competitive (Carey, Niemi & Powell, 1998; Volden, Wiseman & Wittmer, 2013). Findings from this research could be considered in conflict with previous literature by indicating that men collaborate with the executive branch, although more research would benefit this argument.

Leadership. The data found that Democrats were more likely than Republicans to seek information from party leadership. This supports research that party cleavage is less strong in the southern states which were traditionally more conservative than in other regions of the United States (Hillygus & Shields, 2008) and a potential response to Tea Party Activity which illustrates fewer Republicans showing party loyalty (Skocpol & Williamson, 2012).

Legislative Staff. The data and the research (NCSL, 2012; Moynihan, Pandey, & Wright, 2011) indicate that legislative staff is a well-used resource for education policy makers. Compared to the other nine sources of information for education policy makers, legislative staff was third for frequencies of information sought both during the legislative session. Responsible use of government funds is of concern for many people and this research indicates that education policy makers utilize the resources that taxpayers provide for them in the form of paid staff.

These staff members utilize empirical data to provide information that education policy makers may use in drafting, deliberation, or voting. Careful development of ideas and solutions allow for a well-drafted bill. Legislative staff members are provided for research and policy analysis as well as bill drafting and providing continued performance information to legislators throughout the legislative session and during interim sessions. Representative legislators should not be expected to be expert researchers nor policy analysts and committee leaders should be utilizing the support that is provided for them.

Lobbyists. Much of the review of the literature indicates that lobbyists are a rich source for information, that they are knowledgeable in their fields (Hall & Deardorff 2006). This research indicates that education policy makers recognize the knowledge of lobbyists and seek information from them.

Media. The self-reported responses of this research indicated that education policy makers were not likely to seek information from the media. Only 1.4 percent of media attention is focused on education (West, Whitehurst & Dion, 2009), so it is likely that media would not be a likely source of information.

School Personnel. Clear and problematic gaps of understanding exist between education policy makers and school professionals (Canary, 2010; Marshall, 1988). This research indicates that education policy makers seek information from other legislators and constituents more frequently than they do from school professionals. Kozol (2007) explains the need for teachers and district leaders to communicate more with policy makers, so that they might better understand effective ways to meet the needs of children. These data demonstrated that education committee members were likely to seek information from school personnel during the deliberation stage of bill development. Anecdotal data can make compelling arguments in

hearings and less formal dialogue, which is perhaps one reason that school personnel are sought for information during the deliberation stage and not during drafting or voting.

Think Tanks & Other Sources. Data analysis revealed that committee chairs and vice chairs utilized think tanks during drafting and voting stages of bill development more than other committee members. The literature explains that while think tanks use expert research to support legislative decision-making, experts do not always agree on the best policy for each issue, and researchers can present not only the analysis of the data, but also their own opinions and biases (Rich, 2004).

Recommendations for Educational and Policy Professionals and other Stakeholders

Education Policy Makers. This research provides a framework for thinking about where education policy makers seek information or a deliberate consciousness of their sources of information. Education policy makers are better leaders when they recognize their sources and are conscious of the concepts such as knowledge acquisition, bounded rationality, confirmation bias, group think, and social cascades. Soder (2001) and Mooney (1991) explain that sources that provide information to the leader may have significant influence over them, and that the leader is more effective when he or she is aware of this.

Education policy makers would benefit from knowing that this research revealed that outside the legislative session, they are not likely to be seeking information regarding education policy. During the session, legislators have limited time to gather information, so perhaps in order to be more effective during that intense time, more information seeking could take place outside of the legislative session. Additionally, education policy makers might be interested in knowing that results of this research found that both during and outside the legislative session,

they were more likely to seek information regarding education policy from colleagues and constituents than education professionals.

Student Advocates: Potential for Strategizing. Political lobbying and pressure in targeted measures could be of benefit for any organization or individual to promote an agenda or perspective. This research could help guide those who want to use time and efforts most efficiently by establishing priorities of where to focus efforts, as explained below:

Awareness of Education Policy Power. Research (Marshall et al., 1989) indicates that individual state legislators held the most influence over education policy. Those individuals who are interested in making a difference in education policy need to be aware of this and develop relationships with state legislators (or consider candidacy themselves). Based on this research, education policy advisors are seeking information during the legislative session; therefore, the period outside of the legislative session may be a good time to build relationships and not share information. This research indicated that constituents are a source of information, and therefore it could be argued that constituents might want to prepare themselves for communication with state legislators or other elected officials. Mooney (1991) explained that people are more likely to influence legislators if they provide information to them.

Preparing Sources. This research could suggest that preparing specific sources of information (e.g., constituents or school personnel) to communicate with education policy makers would benefit their agenda. This type of preparedness might include using compelling data and anecdotal evidence to support a political agenda, both during and outside the legislative session.

Building Relationships. As mentioned earlier, those people wishing to influence education policy makers would be wise to know that during the legislative session, policy

makers reported a higher likelihood of seeking information. Perhaps focusing on building relationships should be prioritized outside the legislative session, when trust can be built, then sharing information during the legislative session, or close to it, when bill drafting, deliberation, and voting activity is in full swing.

Recommendations for Further Research

Power of State Legislators in Education Policy. The research of Catherine Marshall et al. (1989) indicates that individual state legislators hold the most influence over education policy. An update of these data and analyses would be helpful to see if this is still the case, since there have been many changes in education policy in the last 24 years.

The Gap between Policy Makers and Practitioners. A follow up qualitative research design exploring why education policy makers chose certain sources more than others would compliment this research as well. Building upon Marshall's (1988) and Canary's (2010) claims of a gap between education policy makers and school practitioners, could lead to a better understanding of the existence of this gap and ways to minimize the rift. Marshall et al. (1989) claim these two groups speak different languages, and need to collaborate better.

Men and the Executive Branch. The results of this research indicated a higher likelihood for male education policy makers to seek information from the executive branch of government than females. Future research involving communication and collaboration between the executive branch and females and males might be helpful.

Political Parties and Following Leadership. The results of this research indicate that Republicans are less likely to seek information from party leadership. Further research in party affiliation and information seeking, perhaps in a qualitative method, to learn more about the

attitudes and approaches toward information sources and authority or party leadership would be of interest.

School Personnel as an Information Source

An additionally scholarly opportunity could include the research question of why school personnel are not sought as frequently as other sources. This could involve exploring perceptions of school personnel availability.

Conclusions

These data demonstrate that education policy makers do not prioritize education professionals as an information source. The most extensive information seeking occurs during the intense time of the legislative session and not outside of the session when legislators have more time. This research supports the existing literature that describes a gap in understanding between education policy makers and school teachers and administrators. School personnel work directly with children and families, and therefore have rich information that is useful to lawmakers. Education policy makers face great challenges in managing and processing an overload of information from numerous sources on many different issues. If improving our schools and ensuring that each and every child has an opportunity to work hard and reach his or her goals in school and life are indeed policy priorities, then it is time for policy makers to reach out to school personnel for information when developing education policy. Information regarding the realities of schools throughout the United States needs to reach education policy makers, specifically state legislators, who have the most influence over education policy.

References

Ableson, D. E. (2009). *Do think tanks matter?: Assessing the impact of public policy institutes.* (2nd ed.). Montreal: McGill-Queens University Press.

Ahladeff, K., & Goodlad, J. I. (2008). Introduction. In J. I. Goodlad, R. Soder, & B. McDaniels (Eds), *Education and the making of a democratic people* (pp. 1-8). Boulder, CO: Paradigm

Ahlberg, C., & Shneiderman, B. (1999). Visual information seeking: tight coupling of dynamic query with starfield displays. In S. Card, J. Mackinlay & B. Shneiderman (Eds.), *Information visualization: Using vision to think* (pp. 244-250). San Diego, CA: Academic Press.

Almond, G. A. (1990). *A discipline divided: schools and sects in political science.* Newbury Park, CA: Sage Publications.

Anderson, J. E. (2011). *Public Policymaking* (7th ed.). Boston, MA: Wadsworth.

Aristotle (1941). *The basic works of Aristotle* (pp. 7-208). (R. McKeon, Trans.). New York, NY: Random House.

Auster, E., & Choo, C. E. (1993). Environmental scanning by CEOs in two Canadian industries. *Journal of the American Society for Information Science, 44*(4), 194-203.

Ball, S. J. (1990). *Politics and policy making in education: Explorations in policy sociology*. London: Routledge.

Bartels, L. M. (2002). Beyond the running tally: Partisan bias in political perceptions. *Political Behavior24(*2), 117-150.

Baumgartner F. R., Berry J. M., Hojnacki, M., Kimball, D. C., & Leech, B. L. (2009). *Lobbying and Policy Change: Who Wins, Who Loses, and Why*. Chicago, IL: University of Chicago Press.

Baumgartner, F. R. & Jones, B. D. (2012). The politics of Information: Problem search and public policy in post-war America. Manuscript for submission to the University of Chicago Press. Retrieved from http://www.unc.edu/~fbaum/teaching/POLI891_Fa12/Politics_of_Information_November_20_2012.pdf

Bell, L., & Stevenson, H. (2006). *Education policy: Process, themes and impact*. New York, NY: Routledge.

Bennett, B. (2011). Interview with State Legislator.

Beyle, T. L. (2001). *State and local government. 2001-2002*. Washington, D.C.: Congressional Quarterly Press.

Bogdan, R., & Biklen, S. K. (2006). *Qualitative research for education: An introduction to theories and methods* (5th ed.). Boston, MA: Pearson.

Boote, B. N., & Beile, P. (2005). Scholars before researchers: On the centrality of the dissertation literature review in research preparation. *Educational Researcher, 34*(6), 3-15.

Bordeaux, C. (2008). Integrating performance information into legislative budget processes. *Public Performance & Management Review, 31*(4), 547-569.

Borgatti, S. P., & Cross, R. (2003). A relational view of information seeking and learning in social networks. *Management Science, 49*(4), 432-445.

Brown v. Board of Educ., 347 U.S. 483 (1054).

Burns, J. M. (1978). *Leadership.* New York, NY: Harper & Row.

Butler, D. M., Karpowitz C. F. & Pope, J. C. (2012). A field experiment on legislators home styles: Service versus policy. *The Journal of Politics 74*(2).

Canary, H. (2010). Constructing policy knowledge: Contradictions, communication, and knowledge frames. *Communication monographs, (77)*2, 181-206. doi: http://dx.doi.org/10.1080/03637751003758185

Canfield-Davis, K., & Jain, S. (2010). Legislative decision-making on education issues: A qualitative study. *The Qualitative Report, 15*(3), 600-629. Retrieved from http://www.nova.edu/ssss/QR/QR15-3/canfield.pdf

Canfield-Davis, K., Jain, S., Wattam, D., McMurtry, J. & Johnson, M. (2011). Factors of influence on legislative decision making: A descriptive study. *Journal of Legal, Ethical and Regulatory Issues, 13*(2), 55-68.

Carey, J. M. (2009). *Legislative Voting and Accountability.* New York: Cambridge Press.

Carey, J. M., Niemi, R. G. & Powell, L. W. (1998). The effects of term limits on state legislatures. *Legislative Studies Quarterly, 23*(2) 271-300. Retrieved from http://www.jstor.org/stable/440283 .

Carlson, P. J., & Davis, G. B. (1998). An investigation of media selection among directors and mangers: From "self" to "other" orientation. *MIS Quarterly, 22*(3), 335-362.

Case, D. O. (2007). *Looking for information: A survey of research on information seeking, needs and behavior (*2nd ed.). London: Elsevier.

Chatman E. A. (1999). A theory of life in the round. *Journal of the American Society of Information Science, 50,* 207-217.

Choo, C. W. (2006). *The Knowing Organization*. (2nd ed.). New York, NY: Oxford University Press.

Clark, J. R., Probaskco, S. L., Brandy, G. L. Davis, W. L. (1995). Education reform and cognitive dissonance: The theory of the second guess. *Journal of Applied Business Research 11*(4), 42-47. Retrieved from: http://journals.cluteonline.com/index.php/JABR/article/view/5846/5924

Cohen, D. K., & Hill, H. C. (2001). *Learning Policy*. New Haven, CT and London: Yale University Press.

Conley, D. (2008). Toward a more comprehensive conception of college readiness. A Report to the Bill and Melinda Gate's Foundation. Retrieved from: http://gatesfoundation.org/UnitedStates/Education/ResearchAndEvaluation

Cook, F. L., Tyler, T. R., Goetz, E. G., Gordon, M. T., Protess, D., Leff, D. R., & Molotch, H. L. (1983). Media and agenda setting: Effects on the public, interest group leaders, policy makers, and policy. *The Public Opinion Quarterly*, *47*(1), 16-35. Retrieved from http://www.jstor.org/stable/2748703

Creswell, J. W. (2009). *Research Design: Qualitative, quantitative and mixed method approaches* (3rd ed.). Thousand Oaks, CA: Sage.

Creswell, J. W. (2012). *Educational Research: Planning conducting and evaluating quantitative and qualitative research* (4nd ed.). Boston, MA: Pearson.

Darling-Hammond, L. (2010). *The flat world and education: How America's commitment to equity will determine our future.* New York, NY: Teacher's College Press.

Darling-Hammond, L., LaPointe, M., Meyerson, D., Orr, M. T., & Cohen, C. (2007). *Preparing school leaders for a changing world: Lessons from exemplary leadership development*

programs. Stanford, CA: Report for Stanford Educational Leadership Institute. Retrieved from: http://seli.stanford.edu/research/documents/sls_tech_report.pdf

Davidson, G. C. (2008). *Abnormal Psychology*. Toronto: Veronica Visentin.

Dewey, J. (n.d). Democracy and Education. Champaign, Ill. [P.O. Box 2782, Champaign 61825]: Project Gutenberg.

Downs, A. (1972). Up and down with ecology: The issue-attention cycle. *Public Interest, 28,* 38-50.

Dubnick, M. J. & Bardes, B. A., (1983). *Thinking about public policy, a problem-solving approach*. New York, NY: Wiley.

Elementary and Secondary Education Act of 1965, Pub. L. No. 89-10, 79 Stat. 27. 20 U.S.C.

Ellis, D. (1989). A behavioural approach to information retrieval system design. *Journal of Documentation 45*(3), 171-212.

Erikson, R. S., McIver, J. P. & Wright, G. C. (1987). State politics, culture and public opinion. *American Political Science Review 81* (3).

Evans, R. (1996). *The human side of school change: Reform, resistance, and the real-life problems of innovation.* San Fransisco, CA: Josey-Bass.

Evers, W. M., Izumi, L. T. & Riley, P. A. (2001). *School reform: The critical issues*. Stanford, CA: Hoover Institution Press.

Flagel, J. R. (1990). *Texas legislator voting behavior related to school finance bills.* (Doctoral dissertation). Retrieved from *Dissertations & Theses: A & I Database.* (Publication No. AAT 9115333).

Festinger, L. (1957). *A theory of cognitive dissonance.* Stanford, CA: Stanford University Press.

Festinger, L. (1964). *Conflict, decision and dissonance*. Stanford, CA: Stanford University Press.

Forrester, J. W. (1992). Policies, decisions and information sources for modeling. *European Journal of Operational Research, 59*(1), 42.

Fowler, F. C. (2009). *Policy studies for educational leaders: An introduction* (3rd ed.). Boston, MA: Pearson/Allyn & Bacon.

Frey, D. (1982). Different levels of cognitive dissonance, information seeking, and information avoidance. *Journal of Personality and Social Psychology 43*(6), 1175-1183.

Frey, D. & Wicklund, R. A. (1978). A clarification of selective exposure: The imparct of choice. *Journal of Experimantal Social Psychology (14), 132-139.*

Gall, M. D., Gall, J. P, & Borg, W. R. (2009). *Applying Educational Research* (6th ed.). Boston, MA: Pearson.

Gerbner, G. (1958). On content analysis and critical research in mass communication. *Audio Visual Communication Review, 6*(2), 85-108.

Gigerenzer, G. (2010). Moral satisficing: Rethinking moral behavior as bounded rationality. *Topics in Cognitive Science Society 2.* 528-554.

Gilligan, T. W. (1993). Information and the allocation of legislative authority. *Journal of Institutional and Theoretical Economics, 149*(1), 321-341. Retrieved from http://www.jstor.org/stable/40751605

Gilligan, T. W., & Krehbiel (1997). Specialization decisions within committee. *Journal of Law, Economics and Organization, 13.*

Green, S. B., & Salkind, N. J. (2005). *Using SPSS for Windows and Macintosh* (4th ed.). New Jersey: Pearson.

Hahn, G. J. & Meeker, W. Q. (1993). Assumptions for statistical inference. *The American Statistician 47*(1), 1-11.

Hall, R.L., & Deardorff, A.V. (2006). Lobbying as legislative subsidy. *American Political Science Review*, *100*, 69-84.

Heckman, J., & LaFontaine, P. (2007). The American high school graduation rate: Trends and levels. Bonn, Germany: Institute for the Study of Labor.

Hillygus, D. S. & Shields, T. (2008). Polls and elections: Southern discomfort? Regional differences in voter decision making in the 2000 presidential election. *Presidential Studies Quarterly 38*(3), 506-520.

Hird, J. A. (2005). Policy analysis for what? The effectiveness of nonpartisan policy research organizations. *Policy Studies Journal, 33*(1), 83-105.

Hoy, W. K. & Miskel, C. G. (2008). *Educational administration: Theory, research, and practice* (8th ed.). New York: McGraw-Hill.

Huck, S. W. (2005). *Reading statistics and research* (5th ed.). Boston, MA: Pearson.

Janis, I. L. (1972). *Victims of groupthink: A psychological study of foreign-policy decisions and fiascos* (2nd ed.). Boston: Houghton Mifflin.

Janis, I. L. (1982). Groupthink: Psychological studies of policy decisions and fiascos (Revised ed.). Boston, MA: Wadsworth.

Jonas, E., Schulz-Hardt, S., Frey, D., & Thelen, N. (2001). Confirmation bias in sequential information search after preliminary decisions: An expansion of dissonance theoretical research on selective exposure to information. *Journal of Personality and Social Psychology*, *80*(4), 557-571.

Jones, B. D. (2001). *Politics and the architecture of choice: bounded rationality and governance.* Chicago, IL*:* University of Chicago Press.

Keese, N. C. (1990). Educational decision-making in the Tennessee state legislature.

Dissertations Abstracts International, 51, 4273.

Kiel, G. C., & Layton, R. A. (1981). Dimensions of consumer information seeking sources. *Journal of Marketing Research, 18*(2), 233-239.

Kingdon, J. W. (1977). Models of legislative voting. *Journal of Politics 39*(3) 563-95. Retrieved from http://faculty.washington.edu/jwilker/353/kingdon.pdf

Kozol, J. (2005). *Shame of a Nation*. CITY, NY: Crown Publishers.

Kozol, J. (2007). *Letters to a young teacher.* CITY, NY: Crown Publishers.

Kraft, M. E., & Furlong, S. R. (2010). *Public policy: Politics, analysis and alternatives* (3rd ed.). Washington DC: CQ Press.

Krehbiel, K. (1992). Information and legislative organization. Ann Arbor, MI: The University of Michigan Press.

Kroll, A. (2011). Explaining the use of performance information by public managers: A modified planned-behavior approach. *European Group for Public Administration Conference Paper*. Retrieved from egpa-conference2011.org

Krousser, T. (2006). The limited impact of term limits: Contingent effects on the complexity and breadth of laws. *State Politics & Policy Quarterly 6*(4), 410-429.

Kuhlthau, C. C. (1991). Inside the search process: Information seeking from the user's perspective. *Journal of the American Society of Information Science, 42*(5), 361-372

Kurtz, M. J., & Schrank, A. (2007). Growth and governance: Models, measures, and mechanisms. *Journal of Politics 69* 538-554.

Levine, B. J. (2009). *The art of lobbying: Building trust and selling policy*. Washington DC: CQ Press.

Lieske, J. (1991). Cultural issues and images in the 1988 presidential campaign: Why the democrats lost. Again! *Political Science and Politics 24*(2), 180-187.

Lobbying Disclosure Act of 1995, U.S. Congress

Loughlin, M., & Walker, N. (2008). The paradox on constitutionalism: Constituent power and constitutional form. CITY, STATE: Oxford University Press.

Malhotra, N. (2006). Government growth and professionalism in U.S. state legislatures. *Legislative Studeies Quarterly 31*(4).

Marchionini, G. (1995). *Information seeking in electronic environments*. Cambridge, UK: Cambridge Press.

Marshall, C. (1988). Bridging the Chasm between policy makers and educators. *Theory into Practice, 27*(2), 98-105.

Marshall, C., Mitchell, D. E., Wirt, F. (1985). Assumptive worlds of education policy makers. *Peabody Journal of Education, 62*(4).

Marshall, C., Mitchell, D. E., & Wirt, F. (1989). *Culture and education policy in the American States*. CITY, NY: Falmer Press.

Marzano, R. J., Waters, T., & McNulty, B. A. (2005). *School leadership that works.* Alexandria, VA: ASCD.

Mazzoni, T. L. (1993). The changing politics of state education policy making: A 20-year minnesota perspective. *Educational Evaluation and Policy Analysis 15*(4), 357-379.

Mazzoni, T. L. (1995). State policymaking and school reform: Influences and influentials. In J.D. Pinkley, Griffith, Northcraft, Scribner & D.H. Layton (Eds.), *The study of educational politics* (pp. 53-73). London: Falmer Press.

McDonald, J. H. (2009). *Handbook of Biological Statistics* (2nd ed.). Baltimore, MD: Sparky

House Publishing.

McDonnell, L. M. (1988). Can education research speak to state policy? *Theory into Practice,* 27(2), 91-97.

McKenzie, P. J. (2003). Justifying cognitive authority decisions: Discursive strategies of information seekers. *The Library Quarterly 73*(3), 261-288.

McPherson, G. (1990) *Statistics in Scientific Investigation: Its Basis, Application and Interpretation*. CITY, NY: Springer-Verlag.

Merton, R. K. (1972). Insiders and outsiders: A chapter in the sociology of knowledge. *American Journal of Sociology, 78,* 9-47.

Miller, G.A., Galanter, E., & Pribram, K.H. (1960). *Plans and the Structure of Behavior*. CITY, NY: Holt, Rinehart & Winston.

Mintrom M., & Vergari, S. (1998). Policy networks and innovation diffusion: The case of state education reforms. *The Journal of Politics, 60*(1), 126-148. Retrieved from http://www.jstor.org/stable/2648004

Mitchell, D. E. (2006). *New foundations for knowledge in educational administration, policy, and politics: Science and sensationalism* (3rd ed.). Mahawa, NY: Lawrence Erlbaum Associates.

Mitchell, D. E., Shipps, D., & Crowson, R. L. (2011). What have we learned about shaping education policy? In D. Mitchell, R. Crowson & D. Shipps (Eds.), *Shaping education policy: power and process* (pp. 286-296). CITY, STATE: PUBLISHER.

Mojzisch, A., Schulz-Hardt, S., Kerschreiter, R., & Frey, D. (2008). Combined effects of knowledge about others' opinions and anticipation of group discussion on confirmatory information search. *Small Group Research, 39,* 203-223.

Mooney, C. Z. (1991). Information sources in state legislative decision making. *Legislative Studies Quarterly, 6*(3) 445-455.

Morecroft, J. (1988) "System dynamics and microworlds for policymakers. *European Journal of Operational Research, 35,* 301-320.

Moynihan, D. P., Pandey, S. K., & Wright, B. E. (2011). Setting the table: How transformational leadership fosters information use. *Journal of Public Administration and Theory, 22*(1), 143-164.

Mullainathan, S. & Washington, E. (2009). Sticking with your vote: Cognitive Dissonance and political attitudes *American Economic Journal; Applied Economics 1*(1), 86-111. doi:10.1257/app.1.1.86

Nam H. H., Jost J. T. & Van Bavel J. J. (2013). *Not for All the Tea in China! Political Ideology and the Avoidance of Dissonance-Arousing Situations.* PLoS ONE 8(4): e59837. doi:10.1371/journal.pone.0059837

National Center for Educational Statistics (2011). *Trends in high school drop out rates*. Retrieved from http://nces.ed.gov/pubs2011/dropout08/findings6.asp

National Center for Educational Statistics (2011). *The condition of education.* Retrieved from http://nces.ed.gov/programs/coe/supnotes/2011-n05.asp

National Center for Educational Statistics (2012). Program for international student assessment. Retrieved from http://nces.ed.gov/surveys/pisa/pisa2009highlights.asp

National Conference of State Legislatures (2003). *Legislating for results*. Report.

National Commission on Excellence in Education (NCEE, 1983). *A Nation at Risk: The imperative for educational reform* (U.S. Department of Education). Retrieved from

http://datacenter.spps.org/sites/2259653e-ffb3-45ba-8fd6-04a024ecf7a4/uploads/SOTW_A_Nation_at_Risk_1983.pdf

National Conference of State Legislatures (2012). *Top Fiscal Issues for 2012 Legislative Sessions*. Retrieved from www.ncsl.org/issues-research/

Newman, B. P., & and Stalin, R. (1971). Multivariate analysis of differences in buyer decision time. *Journal of Marketing Research*, *8*(2), 192-8.

Newman J. W., & Lockeman B. P. (1975). Measuring prepurchase information seeking. *Journal of Consumer Research, 2,* 216-222.

Nickerson, R. (1998). Confirmation bias: A ubiquitous phenomenon in many guises. *Review of General Psychology, 2*(2), 175-220.

No Child Left Behind Act of 2001, P.L. 107-110, H.R. 1, 20 U.S.C. 6301. Retrieved from http://www2.ed.gov/policy/elsec/leg/esea02/107-110.pdf

Northouse, P. G. (2010). *Leadership: Theory and practice.* Thousand Oakes, CA: Sage.

O'Donnell, T. (1981). Managing legislative time. In J. Cooper & G. C. Mackenzie (Eds.), *The house at work.* Austin, TX: The University of Texas Press.

Odwazny, L. & Buchanan, E. (2012). Ethical internet research: Informed consent regulations and realities. *Public Responsibility in Medicine and Research*, webinar

Orr, M., & Rogers, J. (2011). *Public engagement for public education*. Stanford, CA: Stanford University Press.

O'Reilly, C. (1982). Variations in decision-makers use of information sources: The impact of quality and accessibility of information. *Academy of Management Journal 25*(4) 756–771.

Owings, S. & Borck, R. (2000). Legislative professionalism and government spending: Do

citizen legislators really spend less? *Public Finance Review, 28,* 210-225. doi: 10.1177/109114210002800304

Padover, S. K. (1939). *Thomas Jefferson on Democracy*. NY, NY: Appleton-Century Company, Inc.

Pallant, J. (2010). *SPSS Survival manual*. NY, NY: McGraw-Hill.

Panning, W. H. (1983). Information flow and party influence: Theory, measurement, and policy. *Political Behavior, 5*(2), 161-189.

Patterson, S. C. (1963). Legislative leadership and political ideology. *Public Opinion Quarterly, 27*(3), 399-410.

Plato, (1945). *The Republic*. (Cornford edition)

Pole, A. J. (2005). Emocracy: Information technology and the Vermont and New York state legislatures. *State and Local Government Review, 37*(1), 7-24.

Poggione, S. (2004). Exploring gender differences in state legislators' policy preferences. *Rolitical Research Quarterly 57*(2), 305-314.

Porat, A., & Haas, J. (1969). Information effects on decision making. *Behavioral Science* (14) 98-104.

Rich, A. (2004). *Think tanks, public policy, and the politics of expertise.* Cambridge, UK: Cambridge University Press.

Ravitch, D. (2010). *The death and life of the great American school system: How testing and choice are undermining education.* Philadelphia, PA: Basic Books.

Ringe, N., Victor, J. N., & Gross, J. H. (2009). Keeping your friends close and your enemies closer: Information networks in legislative politics. Southern Illinois University Carbondale, Working Papers. Political Networks Papers Archive.

Roberson, S. D., Durtan, S. J., & Barham, F. E. (1992). Influences that shape state legislators education policy decisions. *ERS Spectrum, 10*(1), 30-33.

Rogers, E. M. (2003). *Diffusion of Innovat*ions. NY, NY: Simon & Schuster, Inc.

Rozell, M. J., & Mayer, J. D. (2008). Media power media politics. Lanham, MD: Rowman & Littlefield.

Schneider, D. J., Hastorff, A. H., & Ellsworth, P. (1979). *Person perception*. (2nd ed.). Reading, MA: Addison-Wesley Publications.

Senge, P. M. (1990). *The Fifth Discipline*. NY, NY: Doubleday.

Senge P. M., & Sternman J. D. (1992) Systems thinking and organizational learning: Acting locally and thinking globally in the organization of the future. *European Journal of Operational Research, 59,* 137-150.

Simon, H. A. (1971). Information processing theory of human problem solving. In M. Greenberg (Ed.), *Computers, Communications and the Public Interest* (pp. 271-295). Baltimore, MD: The Johns Hopkins Press.

Simon, H. A. (1997). *Administrative Behavior* (4th ed.). New York: The Free Press

Skocpol, T. & Williamson, V. (2012). The tea party and the remaking of republican conservatism. Oxford, UK: Oxford University Press.

Soder, R. (2001). *The language of leadership*. San Francisco, CA: Jossey-Bass.

Sousa, D. A. (2010). *Mind, Brain & Education*. Bloomington, IN. Blooming Tree Press.

Spring, J. (2005). *Political agendas for education: From the religious right to the green party*. Mahawa, NY, Lawrence Erlbaum Associates.

Squire, P. (2007). Measuring state legislative professionalism: The Squire index revisited. *State Politics & Policy Quarterly 7*(2) 211-227.

Stone, D. (1996). Capturing the political imagination: think tanks and the policy process. New York: Frank Cass.

Trottier, T., Van Wart, M., & Wang, X. (2008). Examining the nature and significance of leadership in government organizations. *Public Administration Review, 68*(2), 319-333. doi: 10.1111/j.1540-6210.2007.00865.x

U. S. Constitution. Retrieved from: http://www.archives.gov/exhibits/charters/constitution.html

U. S. Department of Education (2010, November 18). Reducing the Dropout Rate and Helping all Students Graduate College and Career Ready. Retrieved from http://www2.ed.gov/about/inits/list/hispanic-initiative/career-ready.pdf

U. S. Lobbying Disclosure Act of 1995

U.S. Department of Education (2012, May 29). Approved: Eight more states get NCLB waivers [Web log post]. Retrieved from http://www.ed.gov/blog/2012/05/approved-eight-more-states-get-nclb-waivers/

U. S. Office of Management and Budget (US OMB). 2010. Analytical perspectives, Budget of the United States Government, Fiscal Year 2011. Washington, DC: Government Printing Office.

Volden, C., Wiseman, A. E. & Willmer, D. E. (2013). When are women more effective lawmakers than men? *American Journal of Political Science 57*(2) 326-341.

Vroom, V. H., & Yetton, P. W. (1973). *Leadership and decision-making*. Pittsburgh, PA: University of Pittsburgh Press.

Wagner, T. (2010). *The Global Achievement Gap. CITY,* NY: Perseus Book Group.

Warren, J. P., & Halpern-Manners, A. (2007). Is the glass emptying or filling up? Reconciling divergent trends in high school completion and dropout. *Educational Researcher, 36,* 335-43.

West, D. M., Whitehurst, G. J. & Dionne, E. J. (2009). Invisible: 1.4 percent coverage for education is not enough. Report for The Brookings Institute.

Weston, D. Blagov, P. S. Kilts, C. & Hamann, S. (2006). Neural bases of motivated reasoning: An fMRI study of emotional constraints on partisan political judgment in the 2004 U. S. presidential election. *Journal of Cognitive Neuroscience 18* (11), 1947-1958, doi:10.1162/jocn.2006.18.11.1947

Whiteman, D. (1995). *Communication in congress: Members, staff and the search for information*. Lawrence, KS: University Press of Kansas.

Wicklund, R. A. & Brehm, J. W. (1976). *Perspectives on cognitive dissonance.* Hillsdale, NJ: Erlbaum.

Williams, C. (2009). Interview with state legislator.

Wilson, P. (1983). Second-hand knowledge: An inquiry into cognitive authority. Westport, CT: Greenwood Press

Wilson, T. D. (1999). Models in information behavior research. *Journal of Documentation, 55*(3), 249-270.

Wilson, T. D., Ellis, D., Ford, N. & Foster, A. (1999). *Uncertainty in information seeking.* Report to the British Library Research and Innovation Centre/Library and Information Commission.

Winton-Glisson, J. L. (2006). *The study of the decision-making process of Oklahoma state legislators and K-12 educational funding. (*Doctoral dissertation). Retrieved from

http://digital.library.okstate.edu/etd/umi-okstate-2116.pdf

Workman, S., Jones, B. D., & Jochim, A. E. (2009). Information processing and policy dynamics. *The Policy Studies Journal, 37*(1), 75-92.

Young, K. (1977). Values in the policy process. *Policy and Politics, 5*(3), 1-22.

Zhao, Y. (2009). *Catching Up or Leading the Way: American Education in the Age of Globalization.* Alexandria, VA: ASCD.

Appendix A
Cover Email Letter to Participants

Subject: Request Time for Brief Questionnaire

Dear State Legislator:

I am currently a doctoral student at The University of Montana working on my dissertation in educational leadership and policy. I am exploring the information seeking sources of education policy leaders, specifically state legislators. Please give just a few minutes of your time by clicking on the link below to answer a few brief questions. Your confidentiality is of highest priority.

This research has been approved by the Institutional Review Board at The University of Montana. Please do not hesitate to contact me at shannon.obrien@umontana.edu if you have questions or concerns. You are also welcome to contact the chair of my dissertation committee, Dr. Patty Kero, at 406-243-5623. I will be happy to send follow up information if you are interested in the results of the study.

Thank you in advance for your time on this endeavor. The link is:

http://itoselect.ito.umt.edu/TakeSurvey.aspx?SurveyID=m6LHn895

Best regards,

Shannon O'Brien

Appendix B
Instrument

1. How many years have you served as a legislator? (0-12+)
2. Are you: Female/Male
3. In what state do you serve?
4. Do you serve on an education committee? (yes/no)
5. Do you serve as chair or vice chair of an education committee? (yes/no)
6. Are you: (Republican, Democrat, Other)
7. Would you consider your legislature to be citizen (part time) or professional (full time)?

8. Using the following scale of 1-7, how frequently do you seek information from the following sources when you are preparing to **draft/develop** a bill regarding education policy?

Information Source	**Never**		**Sometimes**		**Weekly**		**Daily**
Other Legislators	1	2	3	4	5	6	7
Constituents	1	2	3	4	5	6	7
Executive Branch*	1	2	3	4	5	6	7
Leadership/Caucus	1	2	3	4	5	6	7
Legislative Staff	1	2	3	4	5	6	7
Lobbyists	1	2	3	4	5	6	7
Media	1	2	3	4	5	6	7
School Personnel	1	2	3	4	5	6	7
Think Tanks	1	2	3	4	5	6	7
Other	1	2	3	4	5	6	7

*Governor or
Chief School Officer

8. Using the following scale, how frequently do you seek information from the following sources when you are preparing to **deliberate** on a bill regarding education?

Information Source	Never		Sometimes		Weekly		Daily
Other Legislators	1	2	3	4	5	6	7
Constituents	1	2	3	4	5	6	7
Executive Branch*	1	2	3	4	5	6	7
Leadership/Caucus	1	2	3	4	5	6	7
Legislative Staff	1	2	3	4	5	6	7
Lobbyists	1	2	3	4	5	6	7
Media	1	2	3	4	5	6	7
School Personnel	1	2	3	4	5	6	7
Think Tanks	1	2	3	4	5	6	7
Other	1	2	3	4	5	6	7

*Governor or Chief School Officer

9. Using the following scale, how frequently do you seek information from the following sources when you are preparing to **vote** on a bill regarding education?

Information Source	Never		Sometimes		Weekly		Daily
Other Legislators	1	2	3	4	5	6	7
Constituents	1	2	3	4	5	6	7
Executive Branch*	1	2	3	4	5	6	7
Leadership/Caucus	1	2	3	4	5	6	7
Legislative Staff	1	2	3	4	5	6	7
Lobbyists	1	2	3	4	5	6	7
Media	1	2	3	4	5	6	7
School Personnel	1	2	3	4	5	6	7
Think Tanks	1	2	3	4	5	6	7
Other	1	2	3	4	5	6	7

*Governor or Chief School Officer

10. Are you more likely to seek information or be available to receive information from any of the following sources **during the legislative session**?

Information Source	Never		Sometimes		Weekly		Daily
Other Legislators	1	2	3	4	5	6	7
Constituents	1	2	3	4	5	6	7
Executive Branch*	1	2	3	4	5	6	7
Leadership/Caucus	1	2	3	4	5	6	7
Legislative Staff	1	2	3	4	5	6	7
Lobbyists	1	2	3	4	5	6	7
Media	1	2	3	4	5	6	7
School Personnel	1	2	3	4	5	6	7
Think Tanks	1	2	3	4	5	6	7
Other	1	2	3	4	5	6	7
*Governor or Chief School Officer							

11. Are you more likely to seek information or be available to receive information from any of the following sources **outside of the legislative session**?

Information Source	Never		Sometimes		Weekly		Daily
Other Legislators	1	2	3	4	5	6	7
Constituents	1	2	3	4	5	6	7
Executive Branch*	1	2	3	4	5	6	7
Leadership/Caucus	1	2	3	4	5	6	7
Legislative Staff	1	2	3	4	5	6	7
Lobbyists	1	2	3	4	5	6	7
Media	1	2	3	4	5	6	7
School Personnel	1	2	3	4	5	6	7
Think Tanks	1	2	3	4	5	6	7
Other	1	2	3	4	5	6	7
*Governor or Chief School Officer							

Appendix C

Geographic Regions of the United States
National Conference of State Legislatures 2013

Eastern Region States

- Connecticut
- Delaware
- Maine
- Massachusetts
- New Hampshire
- New Jersey
- New York
- Pennsylvania
- Rhode Island
- Vermont

Southern Region States

- Alabama
- Arkansas
- Florida
- Georgia
- Kentucky
- Louisiana
- Maryland
- Mississippi
- North Carolina
- Oklahoma
- South Carolina
- Tennessee
- Texas
- Virginia
- West Virginia

Midwestern Region States

- Illinois
- Indiana
- Iowa
- Kansas
- Michigan
- Minnesota
- Missouri
- Nebraska
- North Dakota
- Ohio
- South Dakota
- Wisconsin

Western Region States

- Alaska
- Arizona
- California
- Colorado
- Hawaii
- Idaho
- Montana
- Nevada
- New Mexico
- Oregon
- Utah
- Washington
- Wyoming