CHIEF ACADEMIC OFFICERS' PERCEPTIONS OF ASSESSMENT DATA IN OPERATIONAL DECISION MAKING: WHERE ASSESSMENT AND DATA-BASED DECISION MAKING COLLIDE

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AUTHORIZATION TO SUBMIT DISSERTATION

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ABSTRACT

The purpose of this research was to conduct a qualitative, exploratory study on the use of assessment data by higher education Chief Academic Officers (CAOs) in strategic planning, resource allocation, and policy decision making. Following several national studies on assessment in higher education, this research examined how assessment data are used, what types of data are used, and what influences the utility of assessment data in relation to the three topics mentioned. Previous research has found that assessment, as a verb, is valued among higher education leaders; yet the influence of assessment data in relation to strategic planning, policy, and resource allocation decisions is low.

A review of the literature finds that higher education is experiencing increased demands for accountability, and that historically, assessment has been used to meet those demands. Furthermore, a significant force behind the assessment and accountability movement is accreditation. The complexities of higher education organizational structures and management theories indicate that while multiple forces contribute to an extensive array of available data for assessment purposes, the use of that data in decision making is limited. This is supported by several major studies, including the National Center for Post-Secondary Improvement (NCPI) (1997), the Wabash (2006), and the NILOA (2009) projects.

As the CAO is the recognized executive head in higher education policy, planning, and resource allocation matters, that position was identified as a participant for interviews. Three CAOs were recruited to participate in interviews using a five-part protocol developed for this study. Theoretically framed in constructivist grounded theory, and using exploratory thematic analysis, the interview data was analyzed by protocol groupings and by core concepts related to the research questions. Eighteen dimensions were identified, and ultimately three themes emerged; Comparative/Competitive, Production Oriented, and

Reactionary themes. Key findings and recommendations for future research include the need to: (a) redefine and clarify what constitutes assessment data, (b) develop a new model of assessment data utilization, and (c) replicate this study with other types of higher education administrators.

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DEDICATION

To my family

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CHAPTER ONE

INTRODUCTION TO THE STUDY

There is much research addressing the area of executive decision making and higher education leadership (Barnard, 1938; Blanchard & Hersey, 1970; Bolden, Petrov, & Gosling, 2008; Howell & Wall, 1983; Lucas, 1994; Middlehurst, 2013). Thematically, the literature pertaining to higher education decision making focuses on topics that tend to be specific to the context and year of the research. While the literature addresses conceptual and case-specific approaches to understanding how decisions are made, one area that is not widely explored is how decisions are made using assessment data. The goal of this study was to explore how assessment data are utilized by Higher Education Chief Academic Officers (CAOs) in relation to strategic planning, resource allocation, and policy creation.

Within higher education literature, assessment is commonly referred to, and recognized as, both a noun and a verb (Allen, 2004; Banta, 2002; Emil, 2011; Ewell, 2008; Liu, 2011; Palomba, 1999; Secolsky & Denison, 2011; Suskie, 2004). As a noun, assessment data play an important role in the evaluation and measurement of student, course, program, and institutional-level outcomes (Callan, Ewell, Finney, & Jones, 2007; Hernon, Dugan, & Schwartz, 2006; Suskie, 2004, 2008). As a verb, assessment is a practice encompassing not only student learning outcomes, but also more tangible measures of institutional effectiveness, impact, and reach (Driscoll & Wood, 2007; Fairweather, 2002; Middaugh, 2009c; Trainer, 2008). Whether a noun or a verb, a major function of assessment data and practices is to provide executive leaders with information to guide decision making (Banta & Blaich, 2011; Wright, 2008). However, recent studies indicate that, while assessment as a practice is supported by executive leaders in higher education, the integration of assessment data into decision making by those in higher education executive leadership positions is

marginal (Ewell, Paulson, & Kinzie, 2011; Kuh et al., 2009; National Center for Post-Secondary Improvement, 1997). Considering the extensive literature base on higher education decision making, (Blankstein, Houston, & Cole, 2010; Isaacs, 2003; Knapp, Swinnerton, Copland, & Monpas-Huber, 2006; Mandinach, Gummer, Muller, & Education, 2010; Marsh, Pane, & Hamilton, 2006), it is remarkable that only a limited number of studies have examined the role and interactions between assessment data and higher education decision making.

Background

As described by Ewell (2002), since 1985 there has been an "assessment movement" occurring in American higher education. This assessment movement includes a shift towards a scholarship of assessment, a documenting of the history of assessment, and an increase in the collection and use of assessment data (Banta, 2002; Jones, Ewell, & McGuinness, 1998). This movement towards assessment has further been driven by factors such as regional and specialized accreditation bodies revising standards and institutions of higher education working within a continuous improvement model. Furthermore, calls for greater accountability from parents, students, and especially legislators have also been a contributing factor in shaping this assessment movement (Ewell, 2008).

Historically the term "assessment" has been synonymous with student learning outcomes (Garfield & Corcoran, 1986; Shavelson, 2007). As the scholarship on assessment-related issues has expanded beyond student learning outcomes, the term assessment has taken on new meaning (Banta, 2002). Within the literature and professional practice on higher education assessment, the word assessment has been used to describe both a process and a variety of data types. The assessment process is also intrinsically connected to the process

known as “closing the loop” (Banta & Blaich, 2011; Maxim, 2004; Wright, 2008), which describes how data is collected and used to inform decision makers as they evaluate progress and refine organizational goals. The data collected through assessment activities today can include student learning outcomes, as well as broader measures of institutional impact, productivity, and efficiency. Assessment data can also include issues such as student satisfaction, employer and alumni feedback.

A major function of assessment today is to help institutions of higher education meet the increased calls for accountability from the taxpayers who support higher education and the accreditation agencies that provide regional and specialized accreditation recognition. These regional and specialized accreditors also play a critical role in an institution of higher education’s ability to publically demonstrate the delivery of a standards-based educational product (Alexander, 2000; American Council on Education, 2004; Frye, 1999; Schray, 2005). Regional accreditation, in part, also makes an institution of higher education eligible to receive federal funds. At institutions of higher education, the calls for transparency and accountability are increasingly tied to the allocation of resources (American Council on Education, 2004; Association of American Colleges and Universities, 2008; Rich, 2006). In the pursuit of improving student learning outcomes and increasing institutional impact under the changing landscape of national funding trends, Chief Academic Officers in higher education are making decisions in a new type of high-stakes environment (Shepherd & Mclendon, 2012). Such decisions include not only resource allocation decisions, but also strategic planning and policy decisions, all of which have a broad impact on the overall operations of an institution of higher education.

The literature pertaining to higher education operations thematically focuses on organizational governance, issues pertaining to national trends, student learning, institutional accountability, and various subcomponents of higher education operations (Birnbaum, 1988; Duryea, 2000; Ewell, 1985; Kezar, Lester, Carducci, & Gallant, 2006). Those topics and their interrelationship to one another provide insight into how higher education operates. What the literature does not fully address is how assessment data informs and shapes decisions by Chief Academic Officers in relation to strategic planning, matters of policy, and resource allocation. This is evident in a call-to-action from a study conducted by the National Institutes of Learning Outcomes Assessment (NILOA), which identified the following need: "Find out how the results are being used, if at all, by whom, and for what purposes" (Kuh et al., 2009, p. 28).

As seen in Figure 1.1, the NILOA study (Kuh, et al., 2009) found the use of assessment data in matters pertaining to policy and resource allocation is reported to be between "not at all" and "some." The use of assessment data in strategic planning was reported as "some." These findings are disconcerting and worthy of attention. While these findings and other supporting literature indicate a gap between the data collected and the use of the data, the findings and related literature do not examine the underlying causes of that disconnect. If institutions of higher education are under greater scrutiny from external forces, and the financial support for higher education is dwindling, then it stands to reason that institutions of higher education need to be interested in making the most informed and defendable decisions possible about such critical matters as resource allocation, strategic planning, and policies.

Figure 1.1 Uses of Assessment Data for All Schools from the 2009 NILOA Study

Figure 1.1 "Abridged Findings of Assessment Data Use by Carnegie Type" Scale (1.00 = Not at all, 2.0 = Some, 3.0 = Quite a bit, 4.0 = Very Much) as it relates to utilization of assessment data for each specific purpose. *Data table recreated and full credit is attributed to the original author of the 2009 NILOA study* (Kuh et al., 2009).

Earlier broad-based national studies such as the 1996-2001 Inventory of Institutional Support for Student Assessment (ISSA), conducted by the National Center for Post-Secondary Improvement (NCPI), examined the progress made by the individual states and the higher education regional accrediting bodies in establishing and implementing higher education assessment policies. This study found in-part: (a) the focus in assessment had shifted from improvement to accountability, (b) common assessment measures were needed, and (c) additional investments into assessment infrastructure were needed. A study by Blaich and Wise (2011) also referred to as the Wabash Study, is another major body of research relating to assessment data and decision making. This particular study, which ran from 2006 through 2009, was a first-of-its-kind longitudinal study exploring the translation of assessment data into action. While initially focusing on student learning outcomes, the Wabash Study (2006) found that the translation of data into action was problematic and contributed to an environment where assessment data, when viewed at all, had little or no power to impact change (Blaich & Wise, 2011). As a follow-up, the National Institute for

Learning Outcomes Assessment (NILOA) began a series of studies focusing on how assessment data was actually being used in institutes of higher education. To date, these NILOA studies which began in 2008, have found in part that (a) assessment activities have dramatically increased in the past 20 years, (b) assessment efforts in higher education are recognized to be critical processes by executive leaders, (c) assessment is supported as a practice by higher education executive leadership, and (d) executive leaders such as Chief Academic Officers are not fully utilizing assessment related data in decision making. Interestingly, studies focusing on Chief Academic Officers have found that the areas identified in the NILOA study where assessment data are underutilized, are also functions that are allocated significant amounts of time by CAOs (Godin & Hartley, 2010; Mangieri & Arnn Jr., 1991; Mech, 1997).

Theoretical Significance of the Study

This research study addressed gaps identified in previous studies (Blaich & Wise, 2011; Kuh et al., 2009; National Center for Post-Secondary Improvement, 1997, 1999), and it emanates from a call-to-action to understand who is using data and for what purpose (Kuh et al., 2009). As previous studies suggest, assessment data are not fully utilized in strategic planning, resource allocation, and policy decision making. Utilizing an exploratory, qualitative approach, the goals of this research study were to:

- Understand how a select group of Chief Academic Officers utilize assessment data in making decisions about resource allocation, strategic planning, and policy related issues;
- Determine what assessment issues influence Chief Academic Officers' thinking when utilizing a data- driven decision making approach;

- Inform future research on how to explore assessment data utilization from a qualitative paradigm.

Contextual Significance of the Study

If, as suggested by previous studies, there is a functional disconnect between assessment data and its use by decision makers within higher education, then a new model of assessment data utilization must be developed to ensure that comprehensive data are provided in a manner that will have an impact on the decision-making process. Furthermore, if assessment data is underutilized in decision making by Chief Academic Officers in key areas of their responsibility, then research is necessary to understand how Chief Academic Officers are currently utilizing assessment data in their decision making. Conceptually, decision making is a complex process (Blank, Green, & Weitzel, 1990; Blankstein et al., 2010). By exploring how assessment data are utilized in decision making by three Chief Academic Officers, and by framing the direction of the inquiry to resource allocation, strategic planning, and policy-related topics, this study continues to help define where assessment data are and are not being used while exploring the influences that assessment data has on Chief Academic Officer decision making.

While the literature focuses heavily on assessment relating to student outcomes (Council for Higher Education Accreditation & Association of American Colleges and Universities, 2008; Ewell, 1985; Nichols & Nichols, 2005; Peterson, Einarson, Augustine, & Vaughn, 1999), a gap exists between the assessment data collected and the utilization of that data in high-level operational decisions. To address that gap in the literature and in professional practice, this research examined the utilization of assessment data in decision making, worked to identify other types of data that influence decision making, and explored

the utility of assessment data relative to issues pertaining to strategic planning, resource allocation, and policy creation. This research also addressed a call-to-action identified in the NILOA study and outlines a new model for assessment data integration and alignment into higher education operational decision making.

Practical Significance of the Study

Finally, as a next-step response to the call-to-action identified in the NILOA study, this research began to lay the groundwork for future fundable research by developing an interview protocol that explored what assessment data are used, how that data are used, and the utility of data in a data-driven decision-making (DDDM) process by Chief Academic Officers. This protocol accomplishes this by addressing 23 different questions across five question groupings.

Admittedly, the complexities of decision making are beyond linear expression or generalization (Duderstadt, 2000; Mandinach, Honey, & Light, 2006; Stone, 2002). Through the development of a new qualitative-based interview protocol, future research will have an additional means to explore what data are used, how data are used, and the utility of that data in decision making by higher education administrators. This research took the next steps by introducing this line of inquiry into the larger discussion of assessment utilization. In doing so this research study addressed the gap in understanding why assessment data are underutilized, responded to the NILOA call-to-action, and outlined a new model for further integrating assessment data into higher education decision making.

Statement of Problem

There is a need to further understand how assessment data are used by Chief Academic Officers in higher education. This need is driven in part by dwindling support for higher education, increased calls for accountability, and a goal of structuring institutions of higher education to maximize the learning of college students in as many ways as possible (Burke, 2004; Eaton, 2003; Hernandez, Eberly, Avolio, & Johnson, 2011; Kuh et al., 2009; Shulman, 2007; Suskie, 2008). Much of the work and data collected in assessment is quantitative in nature. The evaluation of programs, the counting of degrees awarded, and the measurement of student performance are all issues discussed in the assessment literature. However, by deconstructing the NILOA call-to-action in the context of assessment and decision making in higher education, qualitative questions emerge.

Research Questions

1. How does a Chief Academic Officer utilize assessment data in making decisions regarding strategic planning, resource allocation, and policy creation?
2. What other types of data are used in decision making as it relates to strategic planning, resource allocation, and policy creation?
3. What influences the utility of assessment data in relation to strategic planning, resource allocation, and policy creation?

Theoretical Framework and Study Design Overview

This research is theoretically grounded in constructivism. As an epistemological positioning, constructivism works to make meaning from the activities of individuals and groups (Crotty, 1998). Ontologically, constructivism provides a reality that is constructed

through interaction, perspectives, and interpretative work (Paul, 2005). Assessment by design is a collection of multiple metrics in various forms, from which understanding can and is derived. With multiple groups, and by extension, multiple individuals involved in the assessment process, the "reality" of assessment can be explored through multiple viewpoints, all of which are interpreted differently depending on the perspective of the participant. Binding this study to the perspective of Chief Academic Officers is a next step in understanding the complex process of decision making within institutions of higher education.

The focus of this research was to examine the perspectives of assessment data utilization in resource allocation, policy making, and strategic planning decisions by Chief Academic Officers located at a regional, a private, and a research university. According to the literature and anecdotal experience of the researcher, Chief Academic Officers are individuals who occupy a prominent place within the organizational decision-making hierarchy in institutions of higher education (Bleiklie & Kogan, 2007; Stevenson, 2000). Specifically, Chief Academic Officers at a research, a private, and a regional institution within the Pacific Northwest were invited to participate in a face-to-face interview. A total of 38 Chief Academic Officers were approached to participate. Nine entered into conversations about the study and ultimately, three Chief Academic Officers consented to participate in this research. These types of institutions were selected because each type of institution can and has been significantly impacted by recent national and state financial challenges, as well as the increased demands for accountability from stakeholders (Dickenson, 1999; Kishur, 2004; Thelin, 2011).

In order to initiate research addressing the NILOA call-to-action and the gap in the literature, this study was designed to develop an interview protocol to address the identification and utilization of assessment data with Chief Academic Officers. While national studies, such as the NILOA, NCPI, and Wabash studies, have provided valuable insight into various issues surrounding assessment, those studies did not provide an opportunity for qualitative inquiry into the underlying issues about how Chief Academic Officers utilize assessment data in decision making. As this research was designed to examine how Chief Academic Officers utilize assessment data, a qualitative study design was most appropriate to the focus and questions of the study (Cassell & Symon, 2004; Miles & Huberman, 1994). Utilizing an exploratory design, this research examined 23 different data points with Chief Academic Officers, inquiring about what they consider to be assessment data and how data are used in relation to strategic planning, resource allocation, and policy development.

Impact of Research

Understanding what types of data are needed, for what purpose, and how to present that data is a significant challenge for higher education administrators (Eckel, 2006; Fickes, 1998; Ho, Dey, & Higson, 2006; Perkins, 2001; Trueheart, 2012). Offices of Assessment and Institutional Research are established and charged with collecting data on all manner of topics. From these offices various reports are prepared and presumably used throughout the various levels of the academy to shape decisions (Middaugh, 2009b). This research supports ongoing assessment efforts by exploring how assessment data are used by Chief Academic Officers regarding key operational decisions. With an understanding of what types of assessment data are used, how that data are used, and the utility of that data in decision

making, assessment professionals now have new insight into what data need to be collected. This research also supports future efforts of integrating assessment practices deeper into the work of higher education administrators and faculty. By further integrating and focusing the work of assessment professionals, it is anticipated that assessment practices will become more integrative with the broader work of higher education, resulting in more focused and meaningful data for Chief Academic Officers. This will contribute to ongoing efforts to improve efficiencies in the allocation of resources, support the management of effective policies, and provide assistance in the shaping of strategic planning decisions that impact every aspect of an institution.

Definition of Terms

Throughout the literature, assessment is used as both noun and verb. For the purposes of this study, assessment refers to the various processes and procedures undertaken to collect data (Banta, 2002). Assessment data refers to the information that is collected through the assessment process. Suskie (2009) outlines four major categories into which assessment data can be organized:

- Student Level Data: Data that relates to direct student learning;
- Course Level Data–Data that relates to course outcomes;
- Program Level Data–Data related to the outcomes of a particular program;
- Institutional Level Data–Data at the macro level that examines the outcomes of an institution.

Student-level data refer to data collected relating to student learning. This type of output model has become popular with accreditors in recent years and places a high emphasis on

measuring student outcomes (individual and in the aggregate) against a set of standards, benchmarks, and/or desired outcomes (Ewell, Boeke, & Zis, 2010; Schray, 2005). Course level, program level, and institutional level data are focused more on outcomes relating to desired goals and/or objectives relating to core institutional student learning outcomes. As a hierarchy, student-level data form the base of the evaluative model and contributes to the successive measurement of the other levels (Suskie, 2004).

Throughout this study the following terms may appear and are defined as follows:

- **Assessment (verb)**–A process of collecting data for evaluative and/or planning purposes;
- **Assessment Data (noun)–**The raw data collected during an assessment procedure (ad-hoc, scheduled, or cyclical);
- **Dashboards (noun)**–A type of report, summary, or collection of various data used in reporting and decision making;
- **Student Learning Outcomes (SLOs)** –Those outcomes identified as relating to student learning, performance, and growth;
- **Outcomes Measurement**–Practice of evaluating the measured product of students, courses, programs, and/or institutions;
- **Institutions**–Referring to Institutions of Higher Education, the Academy, or contemporary post-secondary education;
- **Closing the Loop** (Banta & Blaich, 2011; Middaugh, 2009a)–refers to a process of setting program goals and objectives, engaging in some sort of activity, collecting data (assessment data) on that activity in accordance with prescribed

measures and procedures, analyzing the data, and then using the data to modify program goals and objectives (Wright, 2008).

Summary

This study examined how Chief Academic Officers utilize assessment data in making decisions regarding resource allocation, strategic planning, and policy issues. This chapter discussed executive decision making in higher education, explored how assessment is both a noun and a verb, and identified the peculiar shortage of studies regarding the use of assessment data in higher education decision making. The background for this study is provided and traces the assessment movement in American higher education from the original need to measure student learning through the recent increase in accountability and demands for transparency being imposed upon higher education today. The background also provides an overview of previous studies that contributed to the development of this research. The contextual significance of this study is presented and outlines three parts: (a) the need to further align assessment activities into higher education executive decision making; (b) the need to better understand the use and utility of assessment data in matters pertaining to strategic planning, resource allocation, and policy; and (c) the use of this research to address the NILOA call-to-action from a qualitative approach. A need to further understand how assessment data are used by executive Chief Academic Officers was also identified. The study's theoretical framework of constructivism, and how this research utilized an exploratory qualitative design to address the stated research questions, was presented. The significance of how this research addresses the gap in the literature provides context for the goals of this study, which are: (a) understanding how a select group of Chief Academic Officers utilize assessment data for resource allocation, strategic planning, and matters of

policy; (b) determining what assessment issues influence Chief Academic Officers' thinking when utilizing a DDDM approach; and (c) informing future research on how to explore assessment data utilization from a qualitative paradigm. The impact of this research is discussed, followed by a definition of terms used in this study. In the next chapter, a more in-depth review of the related literature pertaining to this study is presented.

CHAPTER TWO

REVIEW OF THE RELATED LITERATURE

Introduction

In the previous chapter, this study is introduced as an exploratory examination on how Chief Academic Officers utilize assessment data in making decisions regarding resource allocation, strategic planning, and policy issues. The first chapter also introduced three major studies that have contributed to this research. In this chapter, a more in-depth analysis of the findings of those studies is provided. This chapter also presents a focused synthesis and review of related literature in higher education, assessment in higher education, decision making in higher education, as well as research and literature pertaining to the higher education Chief Academic Officer.

Organization of the Literature Review

The organization of this literature review follows a five-part design. The first part includes a review of literature pertaining to higher education, with a focus on the historical contexts of higher education, types of institutions examined in this study, governance structures, and issues relating to management and control. Part two includes a review of assessment in higher education including the historical context of assessment, current assessment practices and functions of assessment, accreditation, and issues of accountability. Part three provides an in-depth review of the major studies that contributed to this research, including the NCPI (1997), Wabash (2006), and the NILOA (2009) studies. Part four addresses issues of decision making, an overview of DDDM, and higher education decision making. Part five provides a review of the literature and previous research pertaining to the role of the Chief Academic Officer in higher education, identifies the gaps in the literature

pertaining to CAO decision making, and articulates the necessity of this research in addressing those gaps.

Part One – Higher Education

Historical Context for Higher Education

A review of the literature pertaining to higher education reveals a breadth of topics relating to the interplay among higher education and the numerous societal, economic, and political forces of the past 200 years (Rudolph, 1990). Those historical forces have in part helped to shape higher education operations as much as higher education itself has influenced the very society and people it serves. Historically, higher education has been as much an instrument of social control as it has been a bastion of educational thought. Economically, higher education has gone from serving a privileged few to being an expected pathway for many of today's youth. Politically, higher education has become not only an intellectual and innovative brain trust for America, but also a target for political leaders to use in balancing budgets and in forming statements about the use of taxpayer funds.

Some of the earliest examples of higher education being an instrument of social control can be found in the early 1600's. Groups arriving and colonizing North America passed laws that would create colleges and religious-based schools as a means for educating the populace while also serving as a mechanism for social control and design (Thelin, 2011). For example, in Massachusetts, the Ole' Deluder Satan Act (1642) established that all towns of 50 or more individuals provide for a school to ensure that, through education, individuals could be kept from sinful acts. Adding to that act was the Massachusetts General School Law of 1647, where towns of 100 persons or greater were required to have a primary school with courses in Latin to prepare individuals for progression to attendance at the newly-

formed Harvard College (Hazlett, 2011). These laws are two of the earliest examples of education being used as a tool of social control. These laws were followed by hundreds of years of society further using education as a means of societal control through the exclusion of women and minorities. As institutions of higher education continued to grow in size and scope, social influences began to exert greater influence on what higher education was becoming.

The Morrill Land-Grant Act of 1862 and subsequent act of 1890 provided for the establishment of Land Grant colleges in America. World War II led to a shift in federal research investment into higher education, creating a new type of "brain-trust." Civil Rights and the development of co-educational institutions were seen as shifts in how society was developing and its influences on higher education. While it could be argued that all of these changes were for the betterment of society as a whole, there is evidence to show that American higher education was and is being driven more by economic influences in society (Kerr, 2001; Key, 1996; Myers & Smith, 2008; Zemsky, Wegner, & Massy, 2005).

The economic influences upon higher education are prominent and have developed in three phases. The first phase can be seen in today's agrarian school calendar. It was economically and socially desirable that students participate in formal education and training as long as it did not conflict with the agricultural and economic needs of the growing country. This agrarian-focused calendar can still be seen in over ninety percent of schools, both primary and secondary (Kulikoff, 1992).

The second major phase occurred during the industrialization of America, when colleges became more than just focal points for socio-religious studies or legacy-economic pathways for a select few. Higher education was becoming a means for individuals to

change their social standing. Such historical milestones as the Morrill Act, Civil Rights Act, the GI Bill, and the further development and expansion of federal financial aid, all contributed to the growing concept that college was a viable option and necessary pathway to personal economic enhancement. Starting around the time of the American Industrial Revolution, higher education continues to present itself as a vehicle for individuals who wish to "better themselves" and, at the same time, change their socio-economic status (Altbach, Berdahl, & Gumport, 1998; Garfield & Corcoran, 1986; Zinn, 2010). In turn, this has led to the concepts of "upward social mobility" and, through the increase in the number of degrees awarded, "degree inflation." These concepts have, in part, fueled a steady increase in higher education enrollments and the creation of what we now recognize as the social contract in higher education (Streharsky, 1991; Thelin, 2011; Zinn, 2010).

The third phase, or social contract phase, has positioned higher education as an integral part of the ongoing conversation between citizens and their elected leaders. An educated citizenry desires to better themselves and seek upward mobility. People look to institutions of higher education as one way to obtain the skills, training, and education necessary to accomplish this. This approach is seen as historically valid and has been supported by state legislatures, in varying degrees, since the mid 1800's. Higher education has meet this demand by offering programs and research expertise to individuals and society-at-large in exchange for revenue to fund operations. Legislative bodies have expected that the citizenry would help with these expenses through increased taxes and, in recent years modest tuition rates (Zemsky et al., 2005).

However, due in part to recent global economic conditions and growing costs, the social contract between higher education, elected leaders, and the public has begun to erode.

Institutions of higher education are demanding increased support from legislatures and increased tuition from students, while simultaneously looking for ways to align and streamline their operations (Dickeson, 2010). Legislators are hesitant to increase taxes or allow for greater tuition rates at public institutions, instead opting to hold higher education more accountable for outcomes and demonstrate greater efficiency (Yankelovich, 2009). To further understand how this social contract has begun to erode, examination of the influence of political legislative bodies on higher education in America is necessary.

One of the most pressing political issues relating to the history of higher education is the influence of the United State Federal Government on higher education. With the onset of hostilities in Europe during the late 1930's, the Federal Government began to examine ways to make strategic investments into the development of new technologies, weapons, and support systems to increase the strength and readiness of its military and military industrial complex (Kerr, 2001). During World War II, the federal government discovered higher education was a willing recipient for the millions of dollars that were made available for defense-related research (Brubacher & Rudy, 1997). This is a trend that continues today. Higher education has utilized tax dollars to transform itself into a research and innovation engine. However, those dollars came with conditions and regulations that would grow in complexity and open the door for oversight on higher education for years to come. Governmental oversight in the form of regional accreditors has paralleled the increase in oversight on federally funded research. With the development of other federally funded programs to higher education, such as Pell Grants and Subsidized Stafford Loans, higher education has become one of the most regulated industries in American today (J. Burke, 2004; Ewell, 2008; Harvey & Knight, 1996; Thelin, 2011).

As the literature shows, one common theme in the historical context of higher education is that external factors have had a significant influence on the evolution of higher education in the United States. Societal, economic, and political influences have all had a major impact on how higher education functions at various times in history. While a significant volume of literature emerges from institutions of higher education on all manner of topics, a review of the literature focusing on higher education operations reveals a growing dialogue on the transition of higher education from a center of independent thought and intellectual pursuits into a type of multi-product factory where students are consumers and graduates are the product (Ward & Moore, 2006).

Another theme in the literature that parallels the external influence theme is the ever-growing concept of accountability. The trend for holding institutions of higher education accountable for outcomes permeates faculty and their research within the academy. Furthermore, institutional accountability has been found to impact students during their matriculation and follow them as graduates in an attempt to measure their impact upon society once they have left the academy (Slaughter & Leslie, 1997).

Types of Institutions

Three types of institutions were examined within this dissertation research: (a) research, (b) regional, and (c) private. The selection of these types of institutions was driven by the literature and further justified by the nature of previously conducted research. Those three types of institutions have received considerable treatment in the literature in terms of governance structures and issues pertaining to management and control.

Several common factors of these types of institutions include: (a) accreditation, (b) financial challenges, and (c) governance structure differing from for-profit institutions. Each

of the three institutions is required to have regional accreditation as a condition of receiving federal funding in any form. Additionally, each of the three institutions selected for this study does receive some form of federal aid, either as direct aid for students and/or in the form of federal funding for research. Accordingly, each of the participants in this study represented a regionally-accredited institution. Another common factor that emerged during the research was that each of these institutions has undergone some type of significant, system-wide approach to addressing the economic and financial challenges of the past few years. The approach used, as publically reported, included matters pertaining to strategic planning, policy, and resource allocation decisions within each institution. Previous work in understanding how decisions about strategic planning, policy, and resource allocation has shown that the largest disconnect in assessment data use is in these three types of institutions (Kuh & Ewell, 2010; Kuh et al., 2009). Finally, research, regional, and private institutions all share a common theme in governance structures that differs from for-profit or community college institutions (Brown, 2000; Middlehurst, 1999).

Governance Structures of Higher Education

Higher education can best be described as a collective of competing demands, conflicting agendas, concurrent activities, and multiple structures, all operating in concert and yet independent of each other (Brown, 2000). Admittedly the complexities of higher education governance at the macro level far exceed the scope of this research. The literature on higher education governance structures reveals multiple approaches and shows that at this time, no single unified theory of management for higher education exists. Much of higher education's management and control functions appear to be hand-me-downs from corporate approaches to management (Birnbaum, 1988). In what is considered a fundamental

component to understanding higher education governance, Birnbaum (1988) articulates that as corporate approaches to management are discarded, higher education adopts those practices, making minor alterations to fit the unique nature of educational governance. The uniqueness of these alterations is understood and best described in the concepts of loose coupling and organized anarchy.

Loose coupling. Weick (1976) describes events or elements within an organization that have some connection to each other yet retain a degree of individuality and separation. Loosely coupled elements in an organizational system may interact infrequently or may respond slowly or weakly to each other. Changes in one part of a loosely coupled system will not have a consistent, immediate, and strong impact on other parts of the system.

Loose coupling also suggests a temporary quality to the link between elements. The degree of looseness or tightness in coupling can be characterized by the number and importance of the elements that the two organizational elements have in common. The concept of loose coupling is considered to be quite applicable to institutions of higher education, where it has both advantageous and disadvantageous effects, especially when discussing assessment.

Organized anarchy. Organized anarchy refers to a classic organizational theory that offers individuals a system in which to understand higher education institutional functioning. The organization is seen in the structured policies and practices of delivering education, conducting research, and performing service as a professional academic institution. The anarchy refers to the numerous, and in many ways, uncoordinated approach to achieving those objectives (Cohen, March, & Olsen, 1972).

Organized anarchy appears to suit higher education structures well in understanding the challenges for Chief Academic Officers. The challenge of coordinating the hundreds, if not thousands, of individual and group efforts that occur daily is daunting. The literature articulates these challenges, in part, through the identification of three ambiguities: purpose, power, and experience. A premise of this system is that groups and their respective individuals make autonomous decisions which then lead to uncertain outcomes, or ambiguities (DiBella, 1992; Chaffee, 1983; Cohen & March, 1986). There are three uncertainties that comprise an organized anarchy: (a) ambiguity of purpose, (b) ambiguity of power, and (c) ambiguity of experience.

Ambiguity of purpose asks what the goals of an institution are, and refers to the challenge of creating normative statements about these goals. For example, when 10 people are asked to explain the purpose of a university, they would all give different responses. There would be similar elements in each response, but none would be the same. The challenge is perhaps not so much in assigning clear objectives to a university or college, but in the unambiguous nature of goals expected.

Ambiguity of power refers to a system where formal authority is perceived to be broad but in application is limited. Individuals have much less power and influence over events than others think they do and more than they realize. Thus, the underlying challenge has to do with determining the ascription of real power. For example, Chief Academic Officers are more likely to effect change on their campus than other individuals on campus, such as department chairs or deans. However, upon exercising their influence, they often realize that their own power is dependent on what they are trying to achieve, and that other

formal authority hinders it. In other words, the essential details of organizational life complicate the power structure.

Ambiguity of experience refers to the phenomenon that individuals interpret the same event differently. In a college or university, the Chief Academic Officer or his/her subordinate can control this uncertainty, in a limited sense, by publicly interpreting events for their colleagues and constituents. Making such interpretations is inherently dangerous because, while Chief Academic Officers can perceive themselves to be good interpreters of their environment, they are in fact as fallible as the next individual. Leaders' self-assurance is likely to be strengthened by the encouragement they receive from those with whom they interact and by the opportunities and expectations granted to them by their position.

The complexities of both loose coupling and organized anarchy lend themselves well to understanding the complexity of how the Chief Academic Officer makes decisions. While no single unified theory of higher education management or decision making was identified, a major theme did emerge. Regardless of structure, higher education institutions and their leaders must be highly adaptable and responsive to change amongst professionals who view any change as a potential affront to their individual and collective pursuits and productivity (Birnbaum, 1988; Kezar, 2001). As identified in the literature review, the challenge to overcoming this resides in the area of higher education management and control.

Higher education management and control

Structurally, the control of the higher education resources is understood in the modern sense to be the responsibility of the administration, with varying degrees of involvement from faculty and their appointed and/or elected leaders (Grant, 2010). Throughout the literature, it is clear that faculty and administrators recognize the importance of shared

governance within an institution. Furthermore, research has found that there is support for a process where the allocation of resources, the determination of program offerings, and the overall strategic objectives for an institution are set first by those at the highest levels of the organizational hierarchy and then ratified and implemented by the faculty-at-large (Birnbaum, 1988, 2002; Feldman, McElroy, & LaCour, 2006).

The separation of resource allocation and control has a direct impact on the overall offerings, structure, makeup, and functions of higher education as the academy has shifted into a more corporate model of governance in the last three decades (Middlehurst, 2013). One example of the impact this separation has had on education can be seen in the prioritization of program offerings (Dickeson, 2010). While faculty maintain control of course content, the control of resources available to support those courses and their associated programs has become a function of strategic objectives and resource allocation; functions that are now solidified to the purview of those in the administration (Burke, 2010; Connolly, Connolly, & James, 2000; Leach, 2008). The negotiation between administration and faculty on what those strategic objectives are and how they shape the individual institution is a part of the process referred to as shared governance.

Shared governance. Considerable research has been published on the topic of shared governance. As outlined by several authors, shared governance is where faculty are involved with the shaping of strategic objectives, the allocation of resources, and the establishment of policy in concert with senior administrators (Birnbaum, 2002; Eckel, 2000; Feldman et al., 2006; Fish, 2007). One of the more frequently cited studies, Eckel (2000), focuses on how shared governance structures can be used to make institutional decisions. Using four case studies of program discontinuance (University of Maryland at College Park, Oregon State

University, University of Rochester, and Kent State University), an examination of the interactions among the administration, the faculty, and the governing board/board of trustees was conducted. While each scenario had different specifics, the findings for all four cases were as follows:

- In each case central administrators initiated and led the process.
- The faculty groups, comprised mainly of senior members, were active both in the planning and execution of the program closures as well as attempts to keep programs from being closed.
- The final group [trustees] were generally accepting of the recommendations that were put forth to them and acted mostly as an approving body.

These particular case studies indicate that shared governance by design is supposed to involve the faculty, and in some cases, broad faculty involvement. It is questionable how many faculty members actually participated in the activities described in these studies. Many times faculty "participation" in these types of institutional decisions is limited to those few individuals who are repeatedly called upon by the administration to serve on committees.

Strategic planning. Relative to the concept of shared governance is how strategic planning occurs within the academy. Marcus (1999) examined the strategic planning process conducted at Northeastern State University. That 15-year study described the approaches used by each of the three Chief Academic Officers interviewed as authoritative and centrally driven. Minimal broad-based involvement was used, and in one instance, the planning process was conducted by a limited number of hand-selected individuals who were sworn to secrecy to protect the process. Many faculty in that particular case reported that this "black box" approach prevented them from actively participating in and helping shape the agenda

for the University. Within the same study by Marcus, another instance of strategic planning was done very openly, with any and all volunteers being assigned to some type of committee or subcommittee, but with a short time frame to complete the work. This led to insufficient detail that had to be resolved at the provost level.

Additional research has been done comparing the relative outcomes of higher education with and without faculty input. As identified by Caroll, Dickson, and Ruseski (2010), value models on decisions regarding higher education with and without faculty were conducted. The study itself was designed to aid in the development of a new model for shared governance interaction. While that model has yet to emerge, the overall findings continue to show that decisions made outside of shared governance models tend to overinvest in non-academic programs such as athletics and recreational activities. While external data shows that these programs are in high demand, the demand emanates from revenue drivers rather than academic products. In an era of constricting budgets, and with greater demand for academic quality, it poses the question; if academic leaders make decisions based on data that is not aligned to university missions, then what data are driving this overinvestment? Another finding was that shared governance is designed to provide validation and buy-in from those impacted by broad-reaching decisions. In this instance, another question arises; if resources and strategic planning are two of the most common issues that shared governance addresses, why is faculty involvement so limited? Finally, shared governance was found to be a guiding mechanism in academic decision making regarding strategic planning and resource allocation. However, if faculty involvement is limited, what data are Chief Academic Officers collecting, receiving and using through the shared-governance process for use in decision making (Carroll, Dickson, & Ruseski, 2010)?

Part One Summary

In summary, understanding the historical context of higher education is a first step in understanding how higher education organizationally and structurally operates. In part one the literature shows how higher education has gone from being an instrument of social control to being influenced by society and in the process has transitioned into an engine for economic development. The complexities of how higher education operates are compounded by the influx of economic resources and the resulting demand for accountability on how those resources are used. Furthermore, a framing of the historical components and organizational structures of higher education brings the research questions of this study into greater focus. Part two will further frame the concept and practice of assessment in higher education and explore how assessment has emerged as a way to address the accountability issues in higher education today.

Part Two–Assessment in Higher Education

Overview of Assessment in Higher Education

While some of the earliest works in assessment addressed student learning outcomes almost exclusively, modern higher education assessment focuses on numerous other measures. These measures include broad types of data and analysis on such topics as course, program, and even institutional outcomes. Student learning assessment continues to be a major focus in the literature; however, recent trends show that assessment in higher education has become as much about program and institutional evaluation as it is about student learning (Dressel, 1949; Magruder, McManis, & Young, 1997; Middaugh, 2009b; Secolsky & Denison, 2011).

As has been discussed, the literature uses the term “assessment” as both a noun and a verb. The change in application of the term “assessment,” as presented in the literature, can be seen in how and where the verb is applied in relation to student, course, program, and institutional outcomes. Where the noun once predominately represented student learning outcomes, now it represents a growing number of metrics. This transition further shows how assessment, originally an activity conducted exclusively by faculty, has become an institution-wide process that involves faculty, as well as external stakeholders and academic leaders (Banta, 1993; Nusche, 2008; Shipman, Aloi, & Jones, 2003; Walvoord, 2010).

One of the major challenges identified from the literature is the need to understand how and where assessment data and processes fit into the broader workings of higher education. Part two of this literature review includes a history of assessment and situates the term “assessment” into the context of modern higher education. Further exploration on the types of assessment routinely conducted in higher education is also included. Following that is a review of the process and functions of assessment.

It is clear throughout the literature that much of the work in modern day assessment activities is driven by external forces such as calls for accountability and the need for accreditation (Buchanan, 2001; El-Khawas, 2001; Maxim, 2004; Procopio, 2010). To understand this phenomenon of accreditation driving assessment, part two continues by exploring the accountability movement that has impacted higher education and reviewing how assessment is used in this new age of accountability. Supporting that is an overview of how accreditation has become a major tool in the accountability movement. To accomplish this, a review of the history of accreditation, its operational definition for higher education,

and an examination on the broader role and functions of accreditation in higher education is also presented.

History of Assessment

Assessment as a practice can be traced to 2,000 BC and the earliest Chinese imperial civil service exams (Miller, 2006). These exams made a summative evaluation of an individual's ability to enter the military ranks, and in other cases, their mastery of a particular craft. While an ancient example, the Chinese imperial civil service exam is one of the earliest forms of formalized and named assessment in the world. In a more modern context, assessment prior to World War II focused primarily on student learning outcomes. As a practice that faculty engaged in almost exclusively, assessment was the primary method of evaluating student learning within the subject matter (Heywood, 2000).

Following World War II, American higher education saw a shift in how it was viewed and funded by the public. While measures of student learning were still critical points of interest to academic leaders, external forces were calling upon higher education to demonstrate more than just student learning and achievement. These external forces became manifest with the creation of accrediting bodies. With the development and formalization of institutional accreditation in the 1960s, higher education was increasingly required to demonstrate organizational effectiveness, which included student learning, institutional effectiveness, and impact (Bloom, 1950; Dressel, 1949). This was a shift from the historically accepted practice where the functions of higher education were not questioned.

Throughout the late 1950s and 1960s, the expansion of assessment activities to include both student- and course-level data became commonplace in the growing field of educational assessment (Garfield & Corcoran, 1986). The ever-growing connection between

institutional accreditation and assessment added further momentum to the inclusion of program and institutional-level data into what would become modern higher education assessment (Banta, Lund, Black, & Oblander, 1996; Benjamin & Klein, 2006; Mizikaci, 2006). It is clear in the literature that student-focused assessment was the traditional model for educational assessment about student learning. The conceptual shift in higher education assessment, at the organizational level, can be traced to the increased efforts and demands by governments, legislatures, and regulators. These efforts gave rise to how higher education began to meet the increased demands for demonstrating institutional effectiveness and society's broader need for the services higher education provided (Dwyer, Millett, & Payne, 2006).

Situating the Term "Assessment"

It is important to note that the term "assessment" has historically referred to the systematic process of gathering and analyzing evidence related to student learning. A review of the literature reveals that even today much of the work in assessment still focuses on student learning. However, as the complexities of higher education management and operations have increased, so have the scope of assessment activities. Most major universities have offices of institutional research and participate in extensive annual assessment activities of some type. For the most part, higher education has made assessment synonymous with evaluation (Mizikaci, 2006; Secolsky & Denison, 2011b). This merging of terms is a uniquely American phenomenon as opposed to European approaches where assessment is still frequently used to refer to the more traditional process of examining individual students in order to award degrees, marks, or grades (Kuh & Ewell, 2010; Muethel & Hoegl, 2012).

Types and Levels of Assessment Categorization

The various types of assessment that can be conducted are only limited by the scope of the event that is being measured (Garfield & Corcoran, 1986). There are numerous types of assessment. For example, formative assessment examines data during the progression of a process. Summative assessment evaluates the final product. As two of the more common types of assessment in education, summative and formative approaches are also focused into levels of assessment.

Suskie (2009) discusses four key levels of assessment in education: student, course, program, and institutional. These levels have also been referred to by Suskie as "hierarchies" (L. Suskie, personal communication, 2012–). The levels within this hierarchy have emerged as a way to categorize the growing types of data that are collected in modern higher education assessment.

Student level. Assessment at the student level focuses on students and the individual outcomes they produce. This is usually accomplished through individual courses and products (Suskie, 2009).

Course level. Course-level outcomes begin to aggregate outcomes of courses, the first alignment of outcomes to larger goals. With the student level, products are evaluated against a rubric. At the course level, student-level products feed into a wider group of outcomes for analysis (Driscoll & Wood, 2007).

Program level. Program level assessment continues the transition from student focused to broader groupings. As discussed in the literature, this is where much of an institution's evaluative work focuses. This administrative focus on the program-level data allows for logical groupings and concise analysis of resources. It also generates much of the

core data that higher education administrators view, such as enrollments, graduates, and course offerings. Many of the activities at the course level are dependent on program-level decisions, such as matters of policy and resource allocation decisions (Allen, 2006; Denham, 1988; Dickeson, 2010).

Institutional level. At the top of this hierarchy is institutional-level assessment and data. Much of the transition, both in practice and in the literature, indicates that this level of assessment focuses on metrics that cross course and program levels. If the levels are synonymous with the idea of a hierarchy, then institutional level data would be at the top of the hierarchy. This type of data are also necessary for the process known as "closing the loop" evidence of which is required by many regional and specialized accrediting bodies (Blankstein et al., 2010; Driscoll & Noriega, 2006; Farmer, 1999; Hernon et al., 2006).

Process and Functions of Assessment

Assessment in higher education is a movement that has gained significant momentum and focus throughout education in the past thirty years (Banta, 2002; El-Khawas, 2001). The literature on assessment takes a heavy focus on process. Within the literature, one of the more common terms used to describe this process is "closing the loop." However, as momentum for closing the loop activities have increased, so has the conflict among scholars regarding the steps that make up this process. For example, Wright (2008) outlined the general mechanics of the assessment process to include three steps: (a) setting program goals and objectives, (b) collecting and analyzing data produced during the pursuit of those goals and objectives, and (c) using that data and analysis for refinement and improvement of operations as well as in setting new goals and objectives. However, Banta (2011) and Middaugh (2009) describe a four-step process. Their description of the process includes: (a)

articulation of goals and objectives, (b) gathering of data and evidence, (c) interpretation of the data, and (d) use of the data in the refinement and/or setting of new goals and objectives. The distinction between the gathering of the data and the analysis of the data is important. By separating those steps, a process is created where the data collected and the analysis of the data are distinct and also situated to inform decision makers as they move through the fourth step (Knapp et al., 2006).

In the articulation of goals and objectives phase, an organization first identifies, through a systematic process, those measures and outcomes that are desirable to be pursued by the institution (Banta & Blaich, 2011). The second phase in the process of closing the loop involves the actual collection of data. During this phase, assessment becomes an activity that individuals within the academy commonly refer to as the assessment process, and those pieces of information collected become the assessment data. At this point, assessment the noun and assessment the verb have merged (Heywood, 2000). During this collection phase, the data collected is analyzed according to the specific methods described in a unit's larger assessment plan. The third phase in the cycle is the interpretation of the data collected. During the interpretation phase, assessment is still an activity that now has a nexus of corresponding data. Many times this nexus of data is grouped together into meaningful sub-sets and is commonly referred by end users as assessment data (Middaugh, 2009a).

By design, the fourth phase is where assessment data and the corresponding analysis are to be used in the refinement and articulation of goals and objectives. Connecting the work that concludes in phase four with the ongoing cycle that starts again at phase one is the actual focus of closing the loop. The disconnect occurs in how the data from phase three is integrated into decisions made in phase four. Considerable research has been invested into

how phases four and one are connected. However, the literature does not fully address how assessment data are used to shape high-level decisions relating to matters of policy, strategic planning, or resource allocation (Kuh et al., 2009).

The major difference among the assessment processes outlined by Wright (2008), Banta (2001), and Middaugh (2009) can be seen in how and where assessment data are and are not used. Without closing the loop, assessment activities and data lose their value and authenticity as a tool for informing higher education leaders (Maxim, 2004). As assessment has become an integral component of the accreditation process, the closing of the loop is both one of the most challenging and most important aspects of modern assessment practices in higher education.

Higher Education and the Age of Accountability

Throughout higher education literature and practice, there is evidence to suggest a growing trend in holding higher education accountable for the resources it consumes (Benjamin & Klein, 2006; Linn, 2000). As discussed in this next section, external accreditation currently fills a major role in an institution's ability to demonstrate that resources are being used in accordance with established practices and procedures and that data are driving institutional decision making (Mcclintock & Snider, 2008).

The shifting landscape of external accreditation has created a condition where institutions must go beyond their regular reporting and integrate the use of data, specifically assessment data, into decision making (Mandinach et al., 2006; Trueheart, 2012). This "age of accreditation" and "era of data driven decision making" is best summarized by Trainer (2008), where the emphasis is now on meeting standards and demonstrating institutional effectiveness through data. How institutions routinely collect and use data to shape

institutional policies, strategic plans, and resource allocations decisions is now a standard body of evidence required by many specialized accreditors. Offices of Institutional Research and Chief Academic Officers conduct comparative analyses and help formulate new benchmarks so that the institution can both measure its success and meet the calls for accountability and transparency that most institutions of higher education are now required to demonstrate (Trainer, 2008).

Assessment as a Measure of Accountability

As a measure of accountability, evidence of assessment activities also serves as an individual data point. Institutions that successfully achieve and maintain accreditation use their assessment process to demonstrate accountability and robust operations. The presentation of evidence on regular and systematic evaluation of institutionally identified metrics is a key element in demonstrating accountability regardless of what those metrics may or may not show. The underlying theory is that by structurally connecting assessment to broad-based decisions and larger outcomes, the institution can illustrate a logical and thoughtful process in the delivery of services. By connecting assessment to a data-driven decision management framework, the institution is demonstrating that it has focused its service delivery efforts in the most effective and cost-efficient manner possible (Ewell, 2008; Isaacs, 2003; Liu, 2011; Rezende, 2010). While numerous accredited institutions have successfully demonstrated participation in this efficiency approach, the research surrounding it, as discussed in part four of this literature review, suggests otherwise.

History of Accreditation

The history of accreditation in the United States can be traced to the influx of new resources to institutions of higher education by the federal government. During the 1940s,

the federal government began to rapidly expand its investment into higher education for the development of programs in support of the war effort. This investment and funding of higher education continued to expand as individuals returned from World War II and began to utilize their benefits under programs such as the GI Bill. In more recent years, the increase in federally funded research would be matched by the development of access programs, such as Stafford Loans and Pell Grants, both of which were also funded by the U.S. Government (Kerr, 2001; Zachary, 1997).

This influx of taxpayer-funded resources created a political need to have higher education demonstrate its effectiveness to the taxpayers (El-Khawas, 2001; Ewell, 2008). How assessment and accreditation became interlinked is, by and large, a function of the investment by the U.S. Federal Government into higher education based research. With the increased investment, new regulations and performance standards were established as a system of checks and balances. Institutions were now required to abide by these new regulations and demonstrate achievement of those performance standards in order to maintain eligibility for receiving federal monies. The continued availability of those dollars was critical, as institutions had become increasingly dependent on those dollars for a large portion of their operations (Baker & Dunn, 2006; Buchanan, 2001; Thelin, 2011).

The evaluation of performance standards and review of institutions became the purview of a unique system of regional and specialized accreditation bodies. Differing from European models of governmental accreditation, American accreditation utilizes a peer-review process of regional accreditors, recognized by the United States Department of Education. This also includes a multitude of specialized program accreditors, which are an

eclectic mix of private and non-profit agencies that compliment, and sometimes compete with, state legislatures (Driscoll & Noriega, 2006; Eaton, 2003).

Defining Accreditation

Frequently cited sources loosely define accreditation as a type of quality assurance (Brenneman, Callan, Ewell, Finney, & Jones, 2010; CHEA & AACU, 2008; Eaton, 2003; El-Khawas, 2001; Ewell, 2008; Schray, 2005). From the earliest days of accreditation, the impetus for accountability on higher education has created a network of complex and ever-evolving standards that are specific to any number of topics and fields (Schray, 2005). For example, many colleges of law and education maintain national accreditation as both a program requirement and as a means of marketing. While the literature outlines that the functions of assessment are to serve as external accountability and validation of program effectiveness, the literature fails in many respects to demonstrate how accreditation actually accomplishes those goals beyond the concept of peer review. Furthermore, the literature on accreditation and previous studies about assessment show that accreditation is a major driver in assessment activities (Ewell, 1996; Kuh et al., 2009).

The Role and Function of Accreditation

There are challenges in succinctly defining the role of accreditation because different programs, states, and countries utilize varying processes, standards, and regulations to assign this “mark of quality” (El-Khawas, 2001). At the most fundamental level, the role of accreditation is to provide external validation through a process of review that has been undertaken, and that some external agency can assure to the public that an institution or program has been held accountable in meeting a set of defined criteria (Driscoll & Noriega, 2006; Eaton, 2003; Ewell et al., 2010).

The functions of accreditation are complex. Accreditation can be used to address calls for accountability and provide assurances that an institution is in fact subject to some type of external oversight. American higher education institutions also use accreditation as a marketing tool. Furthermore, federal and some state agencies require specialized accreditations as a condition for program operations. The U.S. Federal Government requires that all institutions be regionally accredited and recognized as a condition for eligibility in receiving federal dollars (El-Khawas, 2001; Ewell et al., 2010). This recognition, however, is not without its own challenges. Within the United States, higher education follows a decentralized model, where standards, licensure, and oversight are a mix of state, regional and national accreditation bodies, each with a differing set of standards and expectations (Secolsky & Denison, 2011a). Functionally, there are two types of accreditation: regional and specialized.

Regional accreditation is recognized by the United States Department of Education as the measure by which an institution demonstrates it is meeting standards. In meeting those standards, institutions can either become or remain eligible to receive federal funds. As higher education has increasingly shifted its focus to research, and as more students have become dependent on federal programs to fund their education, the need to maintain a regional accreditation has become as much about economic survival as it is about quality (Altbach, Berdahl, & Gumport, 1998; NCSL, 2010).

Discussions within the literature argue and question the role of regional accreditors altogether. Perceptions about the value of accreditation also vary considerably. Anecdotal evidence suggests that very few individuals outside of higher education even understand what accreditation is, beyond the perceived “mark of approval.” Within higher education,

accreditation is seen as a burden and requirement that distracts from the intended work of the faculty. This perception leads to internal questions about the value and actual effectiveness of accreditation. With such internal questions among the faculty about the utility of regional accreditation, it is somewhat common for accreditation efforts to be highly valued at the executive level and incorporated into the project operations at the faculty/staff level. Management of regional accreditation is often entrusted to individuals such as Chief Academic Officers, who appoint teams of faculty to collect evidence and craft an accreditation report (Ewell et al., 2010; Maxim, 2004; Procopio, 2010).

Part Two Summary

Part two of this literature review began by examining the history of assessment and continued by showing how assessment has grown from a measure of student learning into a term encompassing student, course, program, and institutional evaluation. A review of the types of assessment and the process that modern higher education utilizes shows that the process and functions of assessment have become a tool in broad-based evaluations, and serve as an institutional response to external calls for accountability. By exploring this accountability movement, assessment is shown to be driven by the need for institutions to demonstrate efficiency and quality as a condition to remain eligible for economic support from the federal government. As a tool in the accountability movement, assessment has become a major way institutions demonstrate to external agencies their institutional alignment to external accreditation standards. The review of the literature further showed how accreditation became ingrained into higher education. Part three takes the next steps in connecting assessment and the concept of decision making in higher education.

Part Three - Decision Making in Higher Education

Introduction to Part Three

In the first two parts of this literature review, higher education and modern higher education assessment were discussed. Part two further summarizes how assessment has been integrated into the accountability movement. As indicated in the process known as closing the loop, assessment is designed to inform decision making through the setting of new goals and objectives for higher education (Banta & Blaich, 2011; Middaugh, 2009a).

Part three of this literature review summarizes key issues in higher education decision making. As a precursor to examining the literature-based disconnect between assessment data and executive decision making by Chief Academic Officers, part three begins by exploring various theoretical decision-making frameworks in higher education. A review of these decision-making frameworks contributes to an understanding of what types of decisions Chief Academic Officers make and how they make them. Finally, the concept of DDDM is presented as an introduction to the major studies that are reviewed in part four.

Select Theoretical Frameworks in Decision Making

A review of the literature indicated multiple decision-making theories have been used over time by higher education. Over the years, higher education has been challenged to find a good fit of the various management approaches available. While no single unified theory has emerged, the early work of Boulding (1956) outlined how General Systems Theory could be constructed "as a possible arrangement of theoretical discourse" in understanding management approaches (p. 202). Boulding's work is a critical starting point in understanding the decision-making process, because it outlines an early attempt to structure and operationalize how individuals make decisions.

During the early 1970s, another milestone emerged in the theoretical decision-making literature. Mintzberg's (1976) work on unstructured decision making explored how organizations make decisions. Defining a decision as "a commitment to action" and a decision process as "a set of actions and dynamic factors" (p. 246), Mintzberg highlighted the distinction between individual and organizational decision making. Mintzberg was also one of the first to connect the concept of "strategic" with "decisions" and further classified decisions and decision-making processes into three levels: (a) individual decisions in game situations, (b) group decisions in the laboratory, and (c) organizational decisions in the field.

Individual decisions in game situations. Drawing heavily from cognitive psychology, the individual decision-making process utilizes a game theory approach to understand and classify how decisions are made from the individual perspective. Understanding of the underlying factors of individual motivation can provide the larger group with a way to develop a shared understanding and sense of mutual support in inter-individual decisions.

Group decision making in the laboratory. Utilizing social psychology, the studies examined by Mintzberg (1976) explored, in a simulated environment, how groups could come to consensus and agreement on setting courses of action as opposed to single decisions. Building on the individual-decisions approach, group decisions become focused on consensus with aggregated group factors. As adapted from game theory, group decisions no longer accept a "zero-sum" approach for the individual. Rather, the group is now working towards a common goal.

Organizational decision making in the field. Building from the work of management theorists and political scientists, the organizational decision-making level

explored how actual decisions are made within real-life situations. Building on empirical data from the previous two levels, Mintzberg (1976) found that, once removed from the laboratory, organizational decisions incorporated a mixture of both individual and group factors. Among these factors were issues that had been shared in the laboratory, as well as some that had not been shared. This selective sharing introduced a complicating factor, revealing a multitude of issues that the laboratory simulations did not anticipate.

Overall, Mintzberg (1976) discovered that, by examining different decision processes across the three levels, organizational decision making could be characterized in various ways. In what is described as "strategic decision making," the connecting of decision making to strategic objectives indicated that decisions could be both reactive and proactive (Mintzberg, 1976, p. 251). Furthermore, the strategic alignment of decisions to objectives would later serve as a foundational element in the development of the closing-the-loop process.

Mintzberg's (1976) work has also contributed significantly to subsequent decision making research. Primary among those in the literature is the work of Tarter and Hoy (1998), who identified five additional theoretical models for academic decision making: (a) classical, (b) administrative, (c) incremental, (d) mixed-scanning, and (e) garbage can.

The classical model. As described by Tarter and Hoy (1998), the classical model is presented as a simple cause-action-effect approach. First, identify the problem and diagnose the issue(s). Next, define alternative paths and approaches that can be used to resolve the issue at hand, and examine exactly what each potential path would entail. Finally, make the decision and then actually implement the decision.

The administrative model. The difference between the classical and administrative models can be seen in the focus each takes. Where the classical model is about optimization, the administrative model is about pacification. Administrators utilizing this model are optimizing, but do so in an attempt to simplify complex situations. Pathways to decisions are based on what will be "good enough" to achieve the strategic vision (Tarter & Hoy, 1998). This model is highly aligned with the organizational decision model from the earlier work of Mintzberg (1976).

The incremental model. The incremental model takes what could be considered a more pragmatic approach than the others to the analysis of the issues at hand. Lindblom (1959) first constructed the idea of an incremental model where administrators worked towards decisions based on their own analysis capacity. Highly constructivist in nature, the incremental model provides a broad amount of time for the analysis of issues and presumes that, once the analysis is completed, the resolution will present itself. The incremental component is derived from the administrative limitations placed on the scope of initial analysis. Three of the main characteristics of this model are: (a) good decisions are those where leadership agrees regardless of objectives, (b) only options relevant to the current state of affairs are considered, and (c) theory is only so useful. The practical considerations and circumstances limit what options are truly available (Tarter & Hoy, 1998).

The mixed scanning model. The mixed scanning model recognizes that administrators tend to make decisions under considerable time constraints. Because of the time constraints administrators face, mixed scanning combines elements of both the administrative and the incremental models. A key element to this model is the transition back to the concept that good decisions are consistent with organizational goals.

Incrementalisim is reintroduced, but this time there is the recognition that decisions may not be final. This model calls for highly adaptive approaches to ongoing decisions (Tarter & Hoy, 1998).

The garbage can model. The garbage can model describes the confluence of seemingly irrational decisions. When a decision needs to be made, administrators approach each issue individually and apply individual or group-individual factors to the choices. The challenge is that in organizations with poor direction or high uncertainty, the volume of individual factor-driven decisions creates immense confusion (Tarter & Hoy, 1998).

There are an abundance of theories and models in the organizational decision-making literature pertaining to higher education (Birnbaum, 1988; Kezar, Carducci, & Contreras-McGavin, 2006). Regardless of the origins of the theories, the literature surrounding decision making reveals several common themes: (a) decision making is about alignment of issues to options, b) decision-making theories tend to utilize a constructivist epistemology, (c) theories of decision making are arranged depending on the center of control, and (d) "most" theories of decision making have been examined through reactionary analysis (how things were done so those steps can be replicated). The concept of most, as stated in the fourth identified theme, refers to how educational decision-making approaches have been found to be discarded corporate theoretical models (Birnbaum, 1988). However, one theoretical model gaining prominence within the higher education decision-making literature and in professional practice is more proactive in nature. That theory is known as Data-Driven Decision making, or DDDM.

Data-Driven Decision Making

As a relatively new approach to higher education decision making, DDDM is emerging as a theory that reconnects educational decisions with a renewed focus on student learning, and by extension, serves as a means to maximize higher educational outcomes (Brenneman, Callan, Ewell, Finney, & Jones, 2010; Callan et al., 2007; Creighton, 2006; Knapp et al., 2006). Fickes (1998) argues that "data management techniques can improve teaching and learning in schools" and as an approach to structuring decisions, data should serve as a guiding framework rather than a simple measurement tool for post-decision evaluation (Fickes, 1998, p. 56). There are four key anchors to DDDM: (a) focus, (b) values, (c) data literacy, and (d) availability of data (Knapp et al., 2006; Middlehurst, 2013).

Focus. Leaders and decision makers must define and provide the lens on how data will be utilized and framed (Bolman & Deal, 1997). The metrics can be qualitative or quantitative in nature; however, such data must be focused to be useful. An overabundance of data only distracts from the ability to connect solutions to issues at hand or to set new priorities and goals based upon the data.

Values. The values anchor of DDDM relates directly to how leaders and decision makers frame and recognize data. Individual perceptions about data impact the utility of the data within the decision-making process. The values anchor is closely tied to the literacy anchor. The difference resides in how the individual applies "worth" to a data point. For example, if a leader is utilizing data to justify a decision, it is not DDDM; but instead data is being used for some other purpose. To extend the example, having a clear understanding of the perceived utility and process of how data are being used is critical to implementing authentic DDDM in a proactive manner. In summation, someone may understand what the

data are, but if they don't value the data, its utility is reduced to almost zero (Mandinach et al., 2010; Mcclintock & Snider, 2008).

Data literacy. This relates to how well and how deeply leaders understand the data they are utilizing. Within the assessment movement described by Ewell (2002), when a leader is working with data they must have a deep understanding of the data, its source, and its function. With strong ties to the values anchor, data literacy can greatly impact what data are used and what data are discarded. When an individual decision maker or group leader has a high level of data literacy, data-enhanced leadership emerges and the full integration of data into the decision-making process becomes possible.

Availability of data. Many times the lack, or overwhelming nature, of data presents more of a challenge to effective DDDM than anything else (Knapp et al., 2006). Recent advances in technology, such as databases, online delivery of data, dashboards, and data warehouses have contributed to a data overload type of environment. In contrast, as recently as ten years ago, data extraction from core systems was the main challenge.

One challenge identified in the literature is how individuals and organizations can use assessment data for improvement under conditions of low data literacy during a time of rapidly-increasing data availability (Emil, 2011; Farmer, 1999). For example, some institutional leaders within higher education might appear to have low data literacy. While leaders might have a less than complete understanding of the data, a leader's perceived literacy could also be a function of the summary data in the reports they receive. These reports are evolutionary documents assembled by others with various agendas and purposes for the data. This process can limit what is and is not seen, which in turn can contribute to a "swallowing" of the data in the development of a summary report (Knapp et al., 2006;

Marsh et al., 2006). Furthermore, during the multi-phase approach to developing data within higher education, sometimes the data can become "muddled" with other non-relevant data in such a way that, if a leader has a low level of data literacy about the data in general, that leader may be unable to effectively utilize data without accepting a degree of data contamination from other interested parties (Levine & Trachtman, 1997; Marcus, 1999).

The concept of data-enhanced leadership implies that a combination of strategic thinking and data-driven decisions creates a powerful approach to improving student learning and increasing institutional outcomes (Blankstein et al., 2010). Within this combination of strategic thinking and data enhanced leadership emerges the complex nature of applying DDDM to higher education. One example of how data-enhanced leadership is becoming integrated into higher education can be seen in recent federal legislation. The American Recovery and Reinvestment Act of 2009, or ARRA, provided just over a half-billion dollars in funding to integrate data-driven decisions into American education. This funding supported technological improvements and enhancements, such as the Statewide Longitudinal Data System and numerous district and institutional projects. These projects and systems are designed to build capacity and support the collection of various types of assessment-related data to be used by decision makers (Mandinach et al., 2010).

Another challenge arising in the use of assessment data is the interaction between data availability and the demand for data to be made public. The rapid increase in the availability of data, as seen in the development of new data collection and reporting systems, has created a type of data overload. Increased funding to support assessment efforts and momentum for DDDM also contributes to an overload of data. The increased availability of data follows the development of the technological era, where instant data has become the

norm. As a result, legislative bodies and the general public now expect and demand even greater access to the depth of data being collected. In turn, this has resulted in additional accountability and transparency expectations for higher education (Trueheart, 2012).

As a decision making theory, DDDM is different from previous decision-making theories in two ways. First, where data had been used to see what had been accomplished, DDDM postulates that data should be used to evaluate what could be accomplished. Second, DDDM can include a variety of data points that must be shaped and constructed into a larger management framework. As will be discussed in part four, models for using data at the highest levels continue to come from a time when DDDM and higher education leadership were parallel, albeit distinct tracks.

Part Three Summary

Parts one and two established a foundation for understanding the complexities of higher education. As an organizational structure, higher education is a multi-product organization that has significant external demands for accountability. Part three described the multitude, and at times competing, models for decision making in higher education. While no single theory of decision making in higher education has yet to emerge, a review of existing key theories illustrated that: (a) the complexities of decision making are highly specific to a variety of factors, (b) most decision-making models and theories are based on a reactive approach rather than on the planning approach, and (c) DDDM has begun to emerge as a new theory in the context of higher education. The natural extension of these three points is to explore the major studies that focus on how assessment data are translated into action. Part four performs this function by reviewing the major studies that contributed to

this research and the broader understanding of how assessment data are and are not being integrated into decision making.

Part Four–Review of Major Studies in Assessment and Decision Making

Parts one, two, and three explored modern higher education assessment, set the groundwork for understanding higher education as an organization, and identified the common themes that exist in decision-making models. Identified in part three was an emergent model of higher education decision making known as DDDM. There are numerous studies throughout the literature on topics pertaining to assessment, higher education, and decision making.

In part four, three major studies that are significant to this research and have contributed to the research questions of this study are reviewed. The first was the 1997 Inventory for Institutional Support for Student Assessment, better known as the NCPI Study. It is so named because it was conducted by the National Center for Post-Secondary Improvement (NCPI). The NCPI Study (1997) examined the phenomenon of assessment becoming a means of accountability. The second study is known as the Wabash Study (2006). The Wabash Study was a longitudinal study that explored the concept of assessment recommendations not being translated into action. The final study discussed in part four is the NILOA Study (2009). Conducted by the National Institute for Learning Outcomes Assessment, the NILOA Study was a nationwide longitudinal study that explored how assessment data impacts academic leaders decision making.

Each of these studies contributed to the broader understanding of how assessment data are used in making decisions. These studies also showed a progression in the literature from assessment and policy, through assessment and decision making, and finally to the

current point in time, where recent studies have found that assessment data are not being fully used in academic decision making. Specifically, the NILOA Study (2009) had within its recommendations a call-to-action, part of which served as the basis for this study. While there are numerous studies pertaining to assessment in higher education, the studies presented in this literature review are highly pertinent to this line of research. Furthermore, these studies clearly articulate the emergent gap in the literature in understanding how assessment data are utilized in academic decision making by chief academic officers. Finally, each of these studies coincides with the assessment movement as described by Banta (2002).

One of the first indicators of complexity found in the literature pertaining to higher education assessment is the breadth of topics covered. Considerable work has been done in the area of student learning outcomes (SLO). Student learning outcomes focus on a variety of topics, such as techniques for assessing student learning, evaluating methods of instruction, and defining and measuring student success. These efforts have graduated from trying to find the correct instrument to the more modern approach of evaluating the student learning experience as a factor in learning (Ewell, 1985; Middle States Commission on Higher Education, 2007; Shavelson, 2007). The efforts in student learning assessment show the studies conducted are fragmented and narrowly focused. This is not to say that the narrow focus is a deterrent. By keeping the focus narrow, student learning assessment studies are able to identify best practices and opportunities for growth. The emphasis is less on process and more on the individual assessment. Issues of instruction, student perceptions, peer assessment, content knowledge, and approaches to standardized testing all contribute to a vast wealth of knowledge.

As assessment practices have grown to cover more than issues of student learning, the volume of research about those issues has also grown. For example, the accountability movement in higher education generated calls for research about how assessment addresses those calls for accountability. The NCPI Study is one of the most widely cited research studies on this topic to date.

The NCPI Study

Beginning with the Inventory for Institutional Support for Student Assessment, NCPI (1997) conducted a long-running composite study on higher education assessment and resulting state policies impacting higher education. The overarching goal of the NCPI Study was to understand faculty and student experiences as they related to teaching and learning on college campuses and how state policy could or was impacting that learning. By focusing their research onto student learning and conducting longitudinal studies with students, the NCPI Study was one of the first to identify that assessment activities had shifted from improvement to accountability (National Center for Post-Secondary Improvement, 1997).

Project five of the NCPI Study expanded into the area of assessment and policy at the state, institutional, and academic program levels. The issues identified in project five are directly related to the line of research in this study. While the NCPI (1997) developed several models on how to effectively translate assessment data into policy action, they also provided a set of findings and recommendations on how to adjust this shift back to an "improvement" mindset.

One critique of the NCPI work is that it was too broad based. Utilizing a mixed methods approach, NCPI worked to deconstruct the highly complex political structures that impact higher education governance. The overall recommendation was to build on that

research and conduct future research into the use of assessment data for change at the institutional level. That research was undertaken in a series of studies commonly known as the Wabash Study (2006).

The Wabash Study

With the release of findings from the NCPI (1997) study, the work of Blarich and Wise (2006), which became known as the Wabash Study, focused on how assessment data are and are not translated into action. Repeatedly cited as a major body of work, the initial Wabash Study identified two key issues relating to why assessment data do not fully translate into action. Those two areas were identified as data literacy and data focus. As the study progressed, the research team readjusted their work to correct what they considered to be "faulty assumptions about assessment" and to focus more on the process of connecting assessment data to decision makers in a meaningful way (Blaich & Wise, 2011). Succinctly put, the Wabash Study was an ongoing study about process and change.

Overall the study found that the design of courses, content delivery, and the supporting efforts of the institution all had an important role in the student learning experience. However, the study did not fully conclude or generalize why assessment data are not translated into action. As stated in the fourth primary finding of the study, "It is incredibly difficult to translate assessment evidence into improvements in student learning" (Blaich & Wise, 2011, p. 11).

When courses are designed with intention and supported institutionally, they have a chance of being effective and having a positive impact on students. However, an examination of the Wabash Study *in toto* shows that assessment data are problematic as there are times when "data-overload" occurs and fails to inform leaders. As a result, assessment as

a process is conducted, the results are written up, and then they are shelved (Blaich & Wise, 2011). This is summarized by ongoing reports by Blaich and Wise (2011):

> The vast majority of our work with institutions focuses on the politics and procedures of using evidence, not on collecting it. For all of the challenges we face trying to gauge student growth on our institutional outcomes, it is far easier to collect data measuring student learning and experiences than it is to use these data (p.15).

The NILOA Study

Following the Wabash Study was the 2009 NILOA Study. The focus of this study was a logical next step in understanding how assessment data interacts with decision making in higher education. The NCPI Study identified the shift in focus of assessment from learning to accountability. The Wabash Study identified the gap between the data collected during assessment and the actual use of the data. The NILOA Study focused its line of inquiry on who uses assessment data and how.

As a follow-up to the NCPI (1997) and Wabash (2006) studies, the NILOA Study built upon previous findings to explore the administrative dimensions of assessment and decision making. From a faculty perspective, the NILOA Study's findings focused on several factors relating to assessment within higher education. It confirmed that the utilization of assessment data within the leadership levels of higher education was low. The NILOA research related most closely to the focus of this study in that it examined assessment data utilization by higher education administrators. The NILOA Study's eight major findings covered a broad spectrum of topics: (1) identification of common learning outcomes, (2) the combination of institutional and program level approaches, (3) uses of assessment data, (4) variable assessment approaches, (5) primary assessment drivers, (6) institutional financial

support for assessment, (7) faculty involvement and support, and (8) institutional intentions for long-term assessment (Kuh et al., 2009, p. 7).

Most institutions have identified a common set of learning outcomes applicable to all students. This common set of learning outcomes derives from a core necessity to achieve regional and/or specialized program accreditation (Buchanan, 2001). The NILOA Study found that, as a common goal-setting exercise, the learning outcomes approach was more pronounced when applied to a general or common curriculum.

Most institutions use a combination of institution-level and program-level assessment approaches. This finding relates to the nature of regional accreditation versus program level accreditation and assessment. The measurement of progress against outcomes as a measure for "success" was found to be achieved through a mixture of institutional-level approaches to data, such as general student outcomes, experiences of students, and longitudinal follow-up studies. Program-level approaches, such as qualitative measures and perceptions of programs for potential direct improvement, were also included.

The most common uses of assessment data relate to accreditation. This finding most aligns with the body of literature relating to assessment as a practice. As one of the major findings within the NILOA study, the use of assessment data was found to be primarily driven by a need to meet and achieve accreditation rather than for the purposes of improvement. With institutions focusing on accreditation rather than on using assessment data to improve and set new goals, the very idea of authentic assessment is lost (Middaugh, 2009b). In its place exists a new standard of "just enough," whereby the academic community engages in pseudo-assessments. Best practices call for long-running assessments conducted at regular intervals, rather than incremental ad-hoc assessments. Through a

systematic approach, assessment becomes part of the research, scholarship, and practice of the faculty (Banta, 2002; Price, 2005).

Assessment approaches and uses of assessment results vary systematically by institutional selectivity. One criticism of the NILOA study was its lack of depth on the underlying causes of utilization. By design, the NILOA study focused its line of inquiry on conducting an inventory of practices relating to assessment data utilization. However, the use of a Likert scale introduces new challenges in determining and understanding institutional selectivity and assessment data utilization. Building on what is evolving within the literature as a potential theoretical framework for higher education management, the idea of focused uses of data postulates that leaders within higher education could potentially direct the data resulting from assessment towards specific purposes (Blanchard & Hersey, 1996; Blanchette, 2010).

Assessment is driven more by accreditation and a commitment to improve than external pressures from government or employers. Again, building on the concept that full assessment data utilization is not occurring within higher education, the next step from the NILOA study was to understand what data are used, how that data are used, and the utility of assessment data in decision making. This finding is directly tied to the later call-to-action that would articulate the need to understand who is using assessment data and how.

Most institutions conduct learning outcomes assessment on a limited budget; 20% have no assessment staff, and 65% have two or fewer. The NILOA study used the term “shoestring” as a colloquial term to represent limited or minimal. This finding was not surprising, and in fact, anecdotal evidence suggested that it may be even lower. Offices of Institutional Research are extremely common throughout the academy; however, the larger

purpose of these offices can cover a host of topics. Offices with staff dedicated to issues in assessment in its truest form are potentially much lower than the NILOA study suggested (Peterson et al., 1999; Trainer, 2008).

Gaining faculty involvement and support remains a major challenge. This finding provided considerable support to the findings within the literature that faculty engagement is lacking in terms of assessment.

Most institutions plan to continue learning outcomes assessment despite budgetary challenges. This could be a function of several different causes. First, the budgetary challenges alluded to within the NILOA and NCPI studies suggest that assessment can be seen as a process of program evaluation and effectiveness, which in turn can be used to gauge the relative value and worthiness of funding within the academy (Dickeson, 1999). A second potential cause of this may be that many accrediting bodies such as the Northwest Commission on Colleges and Universities, the National Council on the Accreditation of Teacher Educators, and The American Bar Association require that an organization have sufficient assessment policies, practices, and officers to ensure that the institution is collecting data and regularly evaluating itself in terms of learning outcomes and overall impact and effectiveness.

A major criticism of the NILOA study is its attempt to quantitatively explore a question that was best suited to a qualitative paradigm. As outlined by numerous qualitative researchers, a qualitative paradigm is best suited when a research question is designed to explore individual or group perceptions, experiences, practices, or phenomena (Creswell, 2009; Flick et al., 2007; Jemmott, 2008). The NCPI and Wabash studies explored what was happening with assessment data in relation to accountability, policy, and student learning.

The NILOA study also focused on what was happening with assessment data, but it attempted to go one step further. As seen in the call-to-action, the NILOA study suggested that work be conducted to understand who, if anyone, was actually using assessment data and how. The findings of the NILOA study further demonstrated a disconnect between assessment data and its utilization in educational decision making.

The NILOA study presented eleven calls to action. The first call-to-action served, in part, as a catalyst for this study; "…find out how the [assessment] results are being used, if at all, by whom and for what purpose" (Kuh et al., 2009). It is within this first call-to-action that this study took focus by identifying: (a) how the results of assessment are being used, (b) by whom, and (c) for what purpose assessment data are used. This was accomplished by asking questions framed around the topics of strategic planning, resource allocation, and matters of policy.

Part Four Summary

In this section the three major studies contributing to this research study were examined. The first was the NCPI Study, which explored the phenomenon of assessment and accountability. The second was the Wabash Study, which focused on the translation of assessment data in action. The third was the NILOA study, which explored how assessment data impacts decision making by higher education leaders. As found in the NILOA study, assessment data are valued but not fully utilized by academic administrators. There is a call-to-action in the NILOA study that recommends that future research be conducted to understand who, if anybody, is using assessment data and how. This study originated in part from these recommendations and that call-to-action. In the next and final section of this

literature review, the position of Chief Academic Officer is explored to better understand the literature-based functions of that role within higher education.

Part Five - The Chief Academic Officer

Part Five Introduction

In the first four parts of this literature review, higher education as an organizational model, the phenomenon of assessment in higher education, various decision-making models in higher education, and the findings of three major studies on assessment and decision making in higher education were discussed. In part five, the subject of this research, the Chief Academic Officer, is discussed. Part five begins with an overview of the Chief Academic Officer position followed by a review of research identifying the major functions of the Chief Academic Officer. Finally, part five concludes with a synthesis and summary of all five sections presented in this literature review.

Overview of the Chief Academic Officer

If, as suggested in the literature, data are becoming a metric upon which decisions are made, one area still to be addressed is the perspective and practices of the leaders who are actually making decisions. As discussed, previous work into assessment data utilization found that assessment data are not fully utilized by leaders when making some of the most critical decisions within the academy: strategic planning, resource allocation and policy creation. The modern Chief Academic Officer, or Provost, of an institution serves as the head of an institution, second only to the president (Mech, 1997). As suggested in the literature, the Chief Academic Officer (CAO) may have an even greater impact on the overall

operations of an institution than the president (Birnbaum, 1988; Godin & Hartley, 2010; Mech, 1997).

The extensive nature and breadth of the work performed by a CAO addresses multiple aspects of an institution. Furthermore, the CAO in many instances is viewed as the academic leader of the institution (Holyer, 2010). Work by Godin and Hartley (2010) found that among American higher education CAOs, supervising and managing personnel is the most time-consuming task, followed by curriculum issues, budgeting/resource allocation, and strategic planning (Godin & Hartley, 2010). Not surprisingly, the same study found assessment data being used as a measure of accountability, and determined that assessment data are structurally connected to the larger outcomes of an institution (Godin & Hartley, 2010).

Major Functions of the Chief Academic Officer

One of the fundamental and most frequently cited studies on the role and functions of the CAO position comes from Mangieri and Arnn (1991), which examined 38 private and 68 public institutions throughout the United States and attempted to construct a model for what a CAO does in the modern context. In summation, that particular study found that COAs have extremely diverse roles. Additional studies also determined the role of the CAO was varied and was based on individual institutional governance structure and need (Godin & Hartley, 2010; Mech, 1997). While these studies showed a high degree of variability in duties among CAOs, they also found that several core functions are common regardless of institutional specificity. While each institution has needs and objectives for their CAO, four key functions were identified: (a) academic planning and curriculum, (b) issues of governance,

(c) budget management, and, (d) leadership as an operational head (Ferren & Stanton, 2004; Holyer, 2010; Mech, 1997).

Academic planning and curriculum. Much of the work of a CAO focuses on academics, as the title implies. This can entail working to ensure that the curriculum is in alignment with the overall institutional goals and strategic vision (Anderson, Murray, & Olivarez, 2002), as well as conducting strategic planning and working to ensure ongoing accreditation (Ferren & Stanton, 2004). Erwin (2000) also highlighted the critical role the Chief Academic Officer plays in maintaining the "instructional integrity" of an institution.

Governance. A significant portion of the CAO's time is spent on issues relating to institutional governance, including setting direction for deans, establishing and reviewing policies, sitting on numerous committees, participating as the link between the faculty and the upper administration in matters of shared governance, and responding to issues as they arise (Barnard, 1938; Feldman et al., 2006; Godin & Hartley, 2010; Holyer, 2010).

Budget management. The CAO is in many instances the individual who works to align the strategic plan within the constraints of the institutional budget (Auld, 2010; Mangieri & Arnn Jr., 1991). Activities can include budget and contract negotiations, asset management, and major issues pertaining to facilities, depending upon the governance structure of an institution.

Operational head. This becomes the catch-all term for tasks that have not already been discussed and are also critical to the overall operations of the institution. In many instances, the CAO serves as a head of the campus in the absence of the president, or can in other cases be the head of a campus, as in the case of a campus system. While the term, chief academic officer, is synonymous with provost, it is important to note that, while the provost

is the second in command, they are many times a final point of resolution in formalized policies and procedures (Holyer, 2010; Taylor & Machado, 2006).

Across all of those roles, the literature further illustrated in both public and private institutions, the most prevalent roles within these core functions are in relation to strategic planning, policy development, and general academic budget coordination (Banta & Blaich, 2011; Liuhanen, 2005; Mangieri & Arnn Jr., 1991; Shepard, 2000; Taylor & Machado, 2006).

The functions and role of the CAO can also be seen in Mintzberg's (1976) typology of managerial and leadership roles. The behavioral characteristics of CAOs are also highly aligned to second and ninth roles of Mintzberg's common managerial roles. The second is leader, where the CAO must work to help set the strategic direction and ensure that there are sufficient polices and resources in place to achieve that mission. There is a significant connection between the resources allocated to a program and its viability. The CAO must work with the university community in a leadership role to ensure that the resources allocated are in alignment with strategic objectives (Mintzberg, 1976, Anderson et al., 2002).

What is interesting, however, is that with so much power and responsibility vested into one position, previous studies have found that CAOs and others in decision-making roles are not using assessment data to inform their decisions (Ewell et al., 2011; Kuh et al., 2009). From this the question arises: If assessment data are not being used to inform decision makers, what data *are* being used?

Synthesis and Summary of the Literature Review

The purpose of this literature review was to provide context and grounding for this study's line of inquiry. Part one examined higher education from a historical and contextual

perspective. The complexities of higher education were discussed, and it is clear through the literature that higher education is as much an engine for economic development as it is a focal point for advanced education. However, this connection to economic development is not without drawbacks. To achieve economic growth higher, education has received considerable investments from the public coffers. The immense investments of public funds into higher education have created an environment where accountability and transparency is a requirement.

Part two examined the accountability movement and how it has reshaped assessment. After examining the historical trends on assessment in the literature, a steady transition can be found where assessment now includes not only measures of student learning, but also serves as a mechanism for demonstrating institutional effectiveness. One example of this is the development of regional and specialized accrediting organizations. By tying regional and specialized accreditation to institutional eligibility to receive federal funds, institutions are now required to adhere to the tenets and requirements of external reviewers. One common requirement of regional and specialized accreditors is that institutions demonstrate they use data to inform decisions.

Part three examined the literature concerning decision making in higher education. The literature identified multiple and competing models for higher education decision making. Over the years numerous researchers have attempted to develop and articulate a single model for higher education decision making and management. To date, no model has emerged and been fully adopted. This could be a result of the complexities in higher education. It could also be a function of the reactionary nature of most decision-making models. One model that is emerging in the higher education literature is DDDM. However,

DDDM is a relatively new model and considerable research into assessment data utilization has occurred prior to its emergence.

Part four examined the three major studies relating to this study and to assessment data use in higher education as it pertains to decision making. The first was the NCPI Study, which focused on the assessment and accountability. This study found assessment to be highly supported, and while assessment data are used, it is not influential. This led to the Wabash Study, which examined how assessment data are translated into action. The Wabash Study found that data literacy and data focus were contributing factors in assessment data not being translated into action. That particular study attempted to correct what the research team described as "faulty assumptions about assessment" and shift its focus onto how assessment data was connected to decision makers in a meaningful way. The study would further go on to report that at times, data overload occurs, and as a result, assessment data does not inform leaders. As a follow up to that study, the NILOA study examined actual assessment data utilization by higher education administrators. At the institutional level, executive leaders were supportive of assessment but reported that assessment was now a tool for meeting external accountability measures as opposed to informing leaders about critical issues. Assessment data was shown to have the least influence on three critical issues in higher education decision making: resource allocation, policy matters, and strategic planning. The NILOA study went one step further in calling for future research to address who, if anyone, was using assessment data and how. That call-to-action and the identified gap in the literature served as one catalyst for this study. As articulated in the NILOA study, assessment data has a weak connection in decision making by higher education leaders in the areas of strategic planning, policy, and resource allocation.

In Part Five, the subject of this research, the Chief Academic Officer, is discussed. The CAO was selected for this study as an individual in higher education with the greatest responsibility for each of those areas identified in part four. Literature on the CAO shows that strategic planning, resource allocation, and matters of policy are key functions of those individuals. Within the functions of the CAO, there are strong connections to strategic planning as a component of the operational head responsibilities, policies as a matter of governance, and resource allocation as seen in the work of budgetary management. Through understanding the key issues that are least influenced by assessment data, and the individual who deals with those issues, this research addressed the NILOA call-to-action through the following three research questions:

1. How does a Chief Academic Officer utilize assessment data in making decisions regarding strategic planning, resource allocation, and policy creation?
2. What other types of data are used in decision making as it relates to strategic planning, resource allocation, and policy creation?
3. What influences the utility of assessment data in relation to strategic planning, resource allocation, and policy creation?

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

Introduction

This research used exploratory thematic analysis to examine how three Chief Academic Officers utilize assessment data when making decisions about resource allocation, strategic planning, and policy related issues. In addition, the research protocol from this study can be used to inform future exploratory studies on assessment data selection and utilization with other higher education leaders within a DDDM framework.

According to Cresswell (2005), qualitative research begins with assumptions and examines research questions from the human perspective using an interpretative approach. Cresswell (2005) offers this operational definition of interpretative research:

> To study this [a] problem, researchers use an emerging qualitative approach to inquire, the collection of data in a natural setting sensitive to the people and places under study, and data analysis that is inductive and establishes patterns or themes. The final written report includes the voices of participants, the reflexivity of the researcher, and a description and interpretation of the problem and it extends the literature or signals a call-to-action (p. 38).

Theoretically framed in Constructivism, and more specifically, constructivist-grounded theory, this study utilized exploratory thematic analysis as a means of addressing the research questions of this study. Guided by the literature and previous research, this study identified three key research questions.

Research Questions

1. How does a Chief Academic Officer utilize assessment data in making decisions regarding strategic planning, resource allocation, and policy creation?
2. What other types of data are used in decision making as it relates to strategic planning, resource allocation, and policy creation?
3. What influences the utility of assessment data in relation to strategic planning, resource allocation, and policy creation?

The research questions were organized around three core concepts: (a) how a chief academic officer uses assessment data, (b) what data a chief academic officer considers to be assessment data, and (c) the utility of assessment data in decision making. This research contributed to the broader understanding of DDDM from the perspective of higher education assessment. Furthermore, understanding how assessment data are or is not being used also advances previous work found in the literature. Finally, this research provided current and future Chief Academic Officers with a mechanism of self-reflection on integrating their individual assessment practices with a DDDM approach.

Qualitative Positioning of the Study

As outlined in Newman and Benz (1998), the methodology used in a study is determined by the nature of the question being examined. This study was designed to incrementally increase the understanding of how assessment data are utilized in higher education decision making. As a follow up to previous studies conducted on assessment utilization in higher education (Kuh et al., 2009), the underlying purpose of this study was two-fold. First, this research addressed the NILOA study's call-to-action by exploring with three Chief Academic Officers the what, how, and utility of assessment data in decision

making related to strategic planning, resource allocation, and matters of policy. As a result, a semi-structured, open-ended, face-to-face interview with participants best suited the nature of the research questions for this study. Additionally, interviews lend themselves well to the inductive and deductive nature of qualitative research by examining a phenomenon and issue that could be identified through quantitative methods but cannot be fully explained without deeper context and meaning (Creswell, 2009). The second purpose of this study was to develop, and apply in the field, an interview protocol that could be used to explore with higher education administrators their individual practices and perceptions of assessment data utilization regarding strategic planning, resource allocation, and policy decisions.

A qualitative approach provided a mechanism to investigate and more deeply understand a phenomenon in a manner that quantitative methodologies may not be capable of exploring (Creswell, 2009; Miles & Huberman, 1994). Examining the uses of assessment data from a purely quantitative standpoint, across multiple institutions, would negate the purpose of this research. First, the NILOA call-to-action suggested a qualitative question. While the NILOA study identified that assessment data are underutilized, the call-to-action from that study sought to understand the underlying forces that shaped those findings. To explore those forces, a qualitative paradigm was required. Second, the protocol for this research is designed to explore how assessment data are used, as well as the utility of assessment data in making decisions about strategic planning, resource allocation, and policy issues. Furthermore, this study was not designed to develop a predictive model for assessment data utilization. Instead, the goal of this research was to add to the broader understanding of what data are utilized, and how, in academic decision making regarding strategic planning, resource allocation, and policy.

Constructivist Grounded Theory

Much of the literature on higher education decision making is grounded in constructivism (Eugene, 2007; Lueddeke, 1999; Rust, O'Donovan, & Price, 2005; Shepard, 2000). In addressing the research questions, the design of this research followed the recommendations of knowledgeable others who indicate "…researchers must choose a research paradigm that is congruent with their beliefs about the nature of reality" (Mills, Bonner, & Francis, 2006, p.2).

Constructivism focuses on the relationships between individuals and the data to construct meaning. This meaning and understanding can be as varied as the number of individuals involved in the research. Constructivism and constructivist theories provide a mechanism to examine data as an individual thing, and also examine the interpretation of that data among individuals as a process (Bernard, 1994; Creswell, 2009; Denzin & Lincoln, 2005; Miles & Huberman, 1994). Epistemologically, constructivism is appropriate for this study.

Constructivist Grounded Theory (CGT) is a process by which "the subject and the researcher create data together during an interview" (Bernard, 2013, p. 525). As interviews are the method of data collection, CGT provides a more focused and appropriate lens for the data. CGT is not a new theory or practice within qualitative research. Charmaz (2000), Jones (2002), Jones and Hill (2003), and Denzin and Lincoln (2005) have all utilized and referenced CGT as a viable means for conducting exploratory qualitative research on complex issues (Mills et al., 2006). Denzin and Lincoln (2005) also recognize CGT as a viable and useful theory and framework for understanding complex questions.

Design of the Study

This study utilized exploratory thematic analysis to examine the data collected through interviews. The exploratory component was derived from the scope and level of this research. The design of this research was built to address, in part, a call-to-action from a national longitudinal survey conducted by the NILOA. By design this research was exploratory in that the call-to-action articulated in the NILOA study was vague. Furthermore, this research had a two-part goal: to address the NILOA call-to-action and to develop an interview protocol that could be used to explore the interaction of assessment data and decision making regarding strategic planning, resource allocation, and policy matters.

The research questions identified for this study were an extension of issues identified in the literature on assessment, data utilization, and DDDM models. The use of thematic analysis was appropriate for the examination of the data collected. As a widely utilized methodology, thematic analysis supports the identification of patterns and themes in data that can then be used to explain or address research questions (Aronson, 1994; Boyatzis, 1998; Creswell, 2009; Miles & Huberman, 1994). Additionally, the methodology and methods in both data collection and analysis were congruent with established practices in qualitative research. Interviews and respondent agreement through verification, as well as multi-phase coding are well documented approaches in the literature and supportive of utilizing a thematic approach in the analysis of the data (Bernard, 2013; Creswell, 2009; Denzin & Lincoln, 2005; Flick et al., 2007; Jemmott, 2008; Marshall & Rossman, 2006; Mayring, 2008; Miles & Huberman, 1994).

Development of the Interview Protocol

Prior to the commencement of the research, the interview protocol was shared among several assessment professionals at a series of round table discussions during two national assessment and accreditation conferences. This pre-review included an open discussion about the relative strengths and weaknesses of each item with extensive refinement on narrative, organization, and focus. The design and organization of the protocol was focused on minimizing participants' response drift from each of the core concepts and questions. Discussion about the protocol also included the expert opinions of other assessment professionals to ensure that appropriate language was used and that topics addressed were comprehensive.

In-Depth Interview Protocol

The interview was structured around conversation starters, in keeping with the concept that a semi-structured interview has great potential to provide participants with a venue to share their stories, knowledge, and expertise without the high-stakes pressure of a formal interview or questionnaire (Britten, 1995; Seidman, 1997; Turner, 2010). This study developed an interview protocol to collect data on 23 different topics organized into five major question groups: (a) an introduction to the concept and participant definition of assessment data, b) questions relating to the utilization of assessment data in relation to strategic planning, (c) questions relating to the utilization of assessment data in relation to resource allocation, (d) questions relating to the utilization of assessment data in relation to matters of policy, and (e) a decision making walkthrough.

Introduction to the concept of assessment data. This first question group addressed what the term "assessment data" meant to the CAOs. This group also framed the

concept of assessment data utilization by addressing what types of assessment data the CAOs used or would like to see, with additional follow-up on the use of identified data. The final element in this grouping served as a comparative means to see what other types of data the CAO may or may not reference or use in their own professional decision-making processes. Three questions were included in this group:

(1) When I use the term "assessment data" what types of data come to mind?

(2) In thinking about assessment data, if you had a "dashboard" of data readily available for decision making, what types of data would you have on that dashboard? What would it look like and how often would you look at it?

(3) Now, in thinking about data in general, what types of data are you most interested in as provost and why?

Assessment data utilization and strategic planning. The second question grouping focused on assessment data utilization regarding how the Chief Academic Officer leads the institutional strategic planning process. As a point of comparison, the protocol also provided an opportunity for the participant to identify other types of data that are used in strategic planning. This question grouping also addressed the individual participants' integration of data into their professional approach regarding strategic planning. This question grouping included four questions:

(1) What types of assessment data do you use, see, or ask for when you are leading the institution-wide strategic planning process?

(2) Why do you include that assessment data in the process?

(3) What other types of data do you use in your strategic planning process?

(4) Could you take me through the working process of how you use all of this data in your strategic planning process? Essentially, as provost, how does data (assessment and non-assessment data) impact and/or shape your decisions regarding strategic planning overall?

Assessment data utilization and resource allocation. The third grouping addressed participants' perceptions and practices on assessment data utilization regarding resource allocation. Like the previous question grouping, participants were able to address how assessment data integrated into their preliminary and final decision making, this time with a focus on resource allocation. Also included in this question grouping was a Likert-based response scale on the usage of student, course, program, and institutional data. The participant was asked to provide an example of how data are, or were used in making decisions related to institution-wide resource allocation. Nine questions were asked in this question grouping:

(1) When developing and finalizing resource allocation plans, how does assessment data shape your decision-making process and ultimately the final budget plans?

(2) Is there a specific type of assessment data that impacts the budget process more than others?

(3) What other data points/types of data do you consider when developing and finalizing the budget, and why?

(4-8) On a scale of extensively, moderately, somewhat, or minimally, please rate your usage of the following as they relate to resource allocation: (a) student

learning outcomes, (b) course outcomes, (d) program outcomes, (e) institutional outcomes, and (f) any other data.

(9) Can you walk me through an example of how you used data to make an institution-wide resource allocation decision (or recommendation)? Perhaps, in the context of recent budget cuts, what data (assessment or otherwise) drove the decisions to cut (or invest) budgets or programs?

Assessment data utilization and matters of policy. The fourth question group focused on data utilization and matters of policy. Again, a comparison of assessment data use was conducted, this time with a focus on matters relating to policy. Given the high variability in institutionally specific duties, there was also an opportunity for the participants to articulate what influenced their choice of specific data sets for use in policy decisions. Six questions were included in this group:

(1) As provost, at what level do you get involved with the development or revision of institution wide polices?

(2) Do you believe that assessment data drives policy creation? Why or why not?

(3) If you could see any type of assessment data in your work on institution-wide policies, what assessment-specific data would you like to see and/or do you currently use?

(4) Could you expand on why would you identified that data?

(5) If you could or do see any other type of data as you are conducting your work on institution wide policies, what other data would you (or do you) look at?

(6) Could you expand on why would you identified that data?

Decision making walkthrough. The last question group focused on how assessment data in general was integrated into the participants' overall individual decision-making process. The goal of this question grouping was to: (a) observe any changes in how the participants defined assessment data at the end of the interview, (b) capture the participants' attitudes towards DDDM, and (c) identify what key factors participants reported as being present in a generic decision-making situation. One open ended question was included in this group:

(1) How do you integrate data into the process? What key factors seem to be present in your decisions? In short, could you please take me through as generic an example as possible, your professional process on how you make a decision in your role as provost?

Participant Identification and Selection

Identification of Participants

Utilizing a regional accreditor's database of accredited institutions, a list of 38 public and non-profit private institutions not designated as a community college was generated. The selection of the regional accreditor and the individual state of the potential participant pool was based on regional proximity to the researcher. The limiting of the initial contact pool to one state was also done to avoid introducing the potential impact that multiple state policies might have on participant's individual decision making practices. Community colleges were excluded from the initial selection pool because the organizational functions of the community college Chief Academic Officer is different than the role a CAO has at research, regional, and private institutions. For-profit institutions were excluded from consideration as their pedagogical approaches and assessment practices are incommensurable with this study.

Many times for-profit institutions classify their assessment data as proprietary, and therefore, would be unlikely to share information.

Selection of Participants

The current Chief Academic Officer from every institution in the initial contact pool was identified using publicly available information. Each institution had an individual who, at the time of the interviews, was serving in the role of Chief Academic Officer, although that person may have been referred to as provost, and in some instances, academic or executive vice president.

The identified Chief Academic Officers were invited to participate using a four-step process. The first step was to directly contact each institutional Chief Academic Officer's office via email with a synopsis of the project and the IRB approval. This initial contact also included a follow-up phone call to the Chief Academic Officer's main office number. The second step involved working with the Chief Academic Officer's office assistant or executive assistant to ensure the message was reviewed by the Chief Academic Officer and to address any questions they had regarding the research project. The third step involved sending email follow-up messages and inquiry phone calls at one, three, and five weeks to both the executive assistant and the Chief Academic Officer. The fourth step involved at least one phone conference call with the Chief Academic Officer to discuss the project in greater detail and to secure their willingness to participate. If a CAO declined to participate or did not respond following the five week follow-up, they were removed from the potential participant pool.

Data Collection Procedures

As a data generating method, interviews provide a mechanism where interaction with the participants can situate the researcher as an instrument. This is done so that the data can speak to the researcher beyond the data's own inherent limitations. From a process standpoint, an interview can be conducted either in person, over the phone, or in writing (Creswell, 2009; Marshall & Rossman, 2006).

Interview Methodology

The interview is a common tool in exploring complex concepts with individuals (Kuehl & Newfield, 1991; Quinn, 1990; Newfield, Kuehl, Joanning, & Quinn, 1991). For the purposes of this study, Chief Academic Officers were interviewed using a semi-structured format with prompts designed to focus and align the discussion to the five question groupings. Semi-structured interviews were selected for a number of reasons. According to Britten (1995):

> Semi-structured interviews are conducted on the basis of a loose structure consisting of open ended questions that define the area to be explored, at least initially, and from which the interviewer or interviewee may diverge in order to pursue an idea in more detail. (p. 251).

Additionally, a semi-structured interview format was utilized as a means of responding to the NILOA call-to-action to "determine who, if anybody is using what data, and how" (Kinzie, 2010, p. 28). This interview approach was used as a means of respecting the participants, their individual journeys as professionals, and the rank they hold within higher education. As this study was theoretically grounded in constructivism, the design of the interview protocol utilized the stance taken by Kitzinger (2004) as it relates to interviews:

"This approach [interviews] is valuable insofar as it draws attention to the fact that experience is never 'raw,' but is embedded in a social web of interpretation and re-interpretation" (p. 128).

The interviews were conducted face-to-face in order to capture as much data as possible. Interviews were also audio-recorded so that the investigator could focus on the conversation with the participants. A dual-recording set up was utilized to ensure that the interviews were recorded in their entirety, to protect against research failure in the event of equipment malfunction, and to provide a secondary source to verify responses in the event that unintelligible audio was picked up. The captured data included field notes on observational data of the participants' body language, tone, physical responses, and gestures. This observational information can be useful in understanding the participant and building a rapport with them during the interview. The goal with an interview was to make the participant feel comfortable so that they were able to thoughtfully answer and disclose information related to the questions being asked (Mack, Woodsong, MacQueen, Guest, & Namley, 2005).

Data Analysis

Thematic Analysis

Thematic analysis is a multi-step process for identifying, analyzing, and organizing qualitative data into themes that provide a roadmap to the larger contextual picture of the data as a whole (Boyatzis, 1998). In this process, a theme becomes a major category in which findings, thoughts, quotes, and concepts are grouped and given a heading, as well as an explanation of what that category means (Creswell, 2007; Silverman, 2006). Throughout the literature, three possible types of thematic analysis are identified: (1) reflective, (2) exact,

and (3) interpretive (Berg, 2003; Boyatzis, 1998; Bryman, 2009; Coffey & Atkinson, 1996; Creswell, 2009; Miles & Huberman, 1994; Neuman, 2000; Punch, 2005). In reflective thematic analysis, the interpretation by the researcher is made and organized into themes after multiple reviews of the data and emergent themes. Exact thematic analysis is a process of pure grammar and structure where components of the language are grouped according to frequency of occurrence and structural use. Interpretive thematic analysis puts the researcher back into the research by providing a self- and context-based review and grouping of the data (Creswell, 2009; Miles & Huberman, 1994; Seidman, 1997).

Thematic analysis further lends itself as a starting point for either affirming the findings of previous studies on assessment data utilization or contradicting those findings and launching a new line of inquiry. As an exploratory study utilizing a constructivist framework, components of each of the three types of thematic analysis were used during two phases of analysis.

Transcription Procedures

The collected data were transcribed in a five-step process by the researcher. These steps included; (1) recapture, (2) conversion, (3) editing and corrections, (4) verification, and (5) anonymization and preparation for analysis.

Recapture. The first step of the transcription was to review all the interviews and make additional comments in the field notes. This was done to provide a full off-site review of the interviews and to serve as the researcher's initial review of the data.

Conversion. The second step of the transcription was to transcribe the interviews word for word. This included full, identifiable information and linguistic fillers. When language was unintelligible on one recording, the back-up recording was utilized. Raw

transcription provided a second opportunity to experience the interviews in their entirety and further refine the development of codes for analysis.

Editing and Corrections. The third step of the transcription process was to read the transcribed interviews while listening to the interview audio recordings. By doing a half-speed replay of the audio and reading the transcripts at the same time, contextual errors such as acronyms and abbreviations were identified and corrected. Editing to remove linguistic fillers such as "um" and "ah" was also performed.

Verification. The fourth step of the transcription process was to send the interviews to the participants for review. Each participant was given one month to review, edit, redact, amend and/or correct their responses. Any such changes were included as an original response.

Anonymization and Preparation for Analysis. During this step, identifiable data, such as names of participants, institutions, and case-specific examples that would allow for easy identification of the participant were removed. Only data that could be used to identify the subject was removed, preserving the responses in their material form for analysis.

Units of analysis

In thematic analysis, it is recommended that the data be broken down into more manageable pieces to provide the researcher with a less overwhelming process (Miller, 2006). For this study, there were two units of analysis. The first unit of analysis was the group responses to each of the five question groupings. The second unit of analysis was the responses to each of the three core concepts of this study: (1) what, (2) how, and (3) the utility of data in decision making. *A priori* codes were initially selected based on the literature and used for initial sorting. These codes were also aligned to the research study

questions. The initial code phrases were: "how data integrates into the decision-making process," "the types of data used in decision making," and "the perceptions of individual data use and non-use."

Analysis of Data

Transcribed data were analyzed using a four-phase process to capture the richness and depth that qualitative research provides (Creswell, 2003; Miles & Huberman, 1994), as outlined by Bernard (2013). During each phase, highlighting and digital pile sorting, key-word-in-context, and phrase re-occurrence were utilized to analyze the data. The data were subjected to four phases of analysis: (1) initial organization and sorting of the data, (2) analysis of the data by question groupings and by core concepts, (3) sorting of data into thematic nodes, and (4) refinement and articulation of themes.

Initial organization and sorting of the data. The development of a codebook is a critical step in thematic analysis (Creswell, 2009; Flick, 2009). The codebook serves as a reference for the data in its raw form. This study utilized a digital codebook in the form of Nvivo 10. Nvivo is one of the many qualitative data-analysis software packages available to researchers. Based on a Structured Query Language engine, Nvivo allows the text to be digitally highlighted by the researcher and copied to various organizational folders and piles. Manual sorting of the data was performed, and Nvivo was used to digitally store and retrieve the coded transcripts.

Analysis of the data by question groupings and by core concepts. Analysis was performed on the participants' individual responses within each question grouping and through each of the core concepts. Throughout these phases, pattern coding, key word in context, and response mapping were used to identify broad categories in the data as they

related to the protocol questions. While not usually considered a qualitative method of analysis, frequency analysis (more commonly known as word re-occurrence), was also used in select situations to more easily identify patterns for exploration. The use of frequency analysis as a pattern-identification method is well articulated in qualitative analysis handbooks.

Sorting of data into thematic nodes. In thematic analysis, the researcher analyzes the data several times to identify emergent themes. Building upon the base level units of analysis, interview data were first sorted into, and analyzed by, individual question responses and question groupings. This process provided an opportunity to again review the data thoroughly and refine the codebook. Throughout the analysis and reflection on the data, broad categories were constructed. The use of nodes served to further refine the broad-category data into similar ideas and concepts. These nodes served as the first articulation of emergent themes and provided yet another point of reflection for identification and refinement.

Refinement and articulation of emergent themes. Following the previous phases, the data were once again analyzed *in toto* to capture any additional data into the emergent theme and to refine the themes already identified. This phase also included the development of graphical taxonomies that demonstrate the construction of the identified themes. These themes were then applied to the research questions and are discussed in greater detail in Chapter five.

Confirmability and Criteria of Trustworthiness

As outlined by Denzin and Lincoln (2005), reflexivity is one way to establish confirmability and trustworthiness within a qualitative study. Reflexivity is a term within

qualitative research where the researcher considers their own background, experiences, interests, and perceptions in the conduct of research and in the subsequent analysis of the data (Krefting, 1991). Requiring both epistemological and personal reflexivity, the use of this technique can ground the study and serve as a means of establishing rigor parallel to the research methods (Watt, 2007). Epistemological reflexivity describes the process of professional self-reflection by the researcher in the examination of the research questions, design, and inherent limitations of any study. In personal reflexivity, the researcher reflects on how their own individual values, experiences, interests, and beliefs have shaped their research (Denzin & Lincoln, 2005).

Much of assessment is quantitative in nature. Furthermore, the scientific community holds researchers accountable for their work, data, and findings. Because qualitative research does not utilize statistical modeling or numerical expressions, issues such as validity and generalizability must be replaced with confirmability and transferability. This study, by design, can be used to explore with other members of the leadership ranks their individual practices and perceptions of assessment data utilization regarding strategic planning, resource allocation, and matters of policy. By replacing the participant focus of the research from Chief Academic Officer to some other title, say Dean or Department Chair, the practical significance of this study is realized. In practical significance, there is also the potential for transferability of this study. It is important to note, however, that while the protocol is adaptable to other positions both within and outside of higher education, a condition of that replication is that it must be used with individuals who have some measure of control over resources, planning, or policy.

Study Limitations

Exploratory studies are initial inquiries. This study did not attempt to generalize all Chief Academic Officers. Rather, this study was designed to address the NILOA call-to-action through the initial steps of developing and testing an interview protocol. Given the response rate in participant identification and selection, a broad-based study, or even a longitudinal study was beyond the scope of this research. This study was designed to analyze the collected data using thematic analysis as a next step in addressing the NILOA call-to-action. Through its exploratory design, this research also provided the broader research community with a protocol and framework for future research into higher education assessment data and decision making.

Protection of Human Subjects

The protection of human subjects in this research remains of paramount importance. It is recognized that this project addressed a highly sensitive issue. As articulated in the literature, Chief Academic Officers can be subjected to extreme scrutiny over decisions after the fact (Holyer, 2010). Given the sensitive nature of this research, and the challenges of asking higher education executives to deconstruct their leadership and decision-making process, extreme care has been taken to protect the identity of the participants. Also, given the limited number of individuals who consented to participate, this study put additional emphasis on the protection of the subjects. For that reason, and to balance the needs of trustworthiness, only the Phase Four, fully anonymized transcripts are included in this dissertation.

Summary

Chapter three was a discussion of the methodology used in this study. In this chapter, the use of exploratory thematic analysis was presented as a methodology for addressing the three research questions of this study:

1. How does a Chief Academic Officer utilize assessment data in making decisions regarding strategic planning, resource allocation, and policy creation?
2. What other types of data are used in decision making as it relates to strategic planning, resource allocation, and policy creation?
3. What influences the utility of assessment data in relation to strategic planning, resource allocation, and policy creation?

Within this chapter there was also a discussion on the two-fold purpose of this research. First, this research addressed the NILOA call-to-action regarding assessment data utilization. The second purpose was to develop an interview protocol. As discussed, the protocol itself consisted of 23 individual questions organized into five question groups addressing three core concepts. The five question groups were: (a) introductory and definition, (b) assessment data utilization in strategic planning, (c) assessment data utilization in resource allocation, (d) assessment data utilization in matters of policy, and (e) a decision-making walkthrough. The three core concepts aligned to the research questions include: what, how, and the utility of assessment data regarding decision making.

In the section regarding participant identification and selection, chapter three presents the process on how a pool of 38 Chief Academic Officers were identified. Individuals who consented to participate were interviewed using the protocol previously described. The section on analysis outlined how the data was first transcribed using a five-part process:

recapture, conversion, editing and corrections, verification, and anonymization and preparation for analysis. The analysis section continued by articulating how the transcribed data were thematically analyzed using highlighting and digital pile sorting, key word in context, and phrase re-occurrence. The analysis occurred over four phases: (a) initial organization and sorting of the data, (b) analysis of the data by question groupings and by core concepts, (c) sorting of data into thematic nodes, and (d) refinement and articulation of themes. Chapter three concluded with a discussion on confirmability and the criteria of trustworthiness, the limitations of this study, and a discussion on the protection of human subjects.

CHAPTER FOUR

FINDINGS

Introduction

An exploratory thematic analysis was used to examine how three Chief Academic Officers identify and integrate assessment data into their decision making on issues regarding resource allocation, strategic planning, and policy matters. This study also examined the potential of a new interview protocol that can be used to explore similar issues with other academic leaders. The researcher acknowledges that this small-scale exploratory study worked with three individuals to address 23 different questions organized into five question groupings. Those question groupings were based on three core concepts: (1) what assessment data are used, (2) how is that assessment data used, and (3) the utility of that data. Those three core concepts also served as the foundation for this study's literature-based research questions:

1. How does a Chief Academic Officer utilize assessment data in making decisions regarding strategic planning, resource allocation, and policy creation?
2. What other types of data are used in decision making as it relates to strategic planning, resource allocation, and policy creation?
3. What influences the utility of assessment data in relation to strategic planning, resource allocation, and policy creation?

As an exploratory study, the findings presented in this chapter should not be generalized. Instead, these findings should be used in the context of exploratory qualitative research. According to Cresswell (2008):

> We conduct qualitative research when we want to empower individuals to share their stories, hear their voices, and minimize the power relationships that often exist between a researcher and the participants in a study. We also use qualitative research because quantitative measures and the statistical analyses simply do not fit the problem. To level all individuals to a statistical mean overlooks the uniqueness of individuals in our studies (p.48).

The findings presented in this chapter were derived from a thematic analysis of the data collected during interviews with three Chief Academic Officers; one each from a research, a regional, and a private non-profit university. As a means of organization, this chapter is organized into five parts: (1) demographic and institutional descriptions, (2) analysis of the interview protocol, (3) analysis by question groupings, (4) analysis by core concepts, and (5) presentation of identified themes.

Part One - Demographic and Institutional Descriptions

After IRB approval was granted, the offices of 38 Chief Academic Officers were contacted via e-mail with a request to participate in this study. Follow-up emails and phone calls to non-responsive inquiries were conducted at one and three weeks following the initial invitation, with a final follow-up phone call at five weeks. During this process, 29 institutions declined to participate, either through direct notification or researcher discontinuance after three unresponsive follow-ups. Nine institutional Chief Academic Officers expressed interest in the study and ultimately three of those consented to participate.

The *research institution* in this study was classified by the Carnegie Foundation as a four-year, public institution with very high research activity. The Chief Academic Officer at the time of the interview was male with an extensive history of research, teaching, and

administrative experience. This individual followed a pathway to the Chief Academic Officer office through service in a variety of academic positions and had been tenured through normal practices.

The *regional institution* in this study was a four-year public institution with a large, primarily residential, campus as classified by the Carnegie Foundation. This institution offers Bachelors and Masters degrees with greater focus on undergraduate programs. The Chief Academic Officer at the time of the interview was female and had a record of scholarship in her particular field. The administrative experience of this Chief Academic Officer was lengthy, but not highly varied at the time of her appointment to the role of Chief Academic Officer.

The *private institution* in this study is a not-for-profit institution with a small, focused student population as articulated by the Carnegie Foundation. Granting undergraduate and master's degrees, this institution had the smallest student enrollment of any of the subject institutions, yet they had the second highest graduation rate. The Chief Academic Officer at the time of the interview was female, and had served as a dean prior to her appointment to the Chief Academic Officer position.

Part Two - Findings of the Interview Protocol

The in-depth interviews with Chief Academic Officers utilized an interview protocol consisting of 23 exploratory questions, which were organized into five groups: (1) introductory, (2) assessment data utilization and strategic planning, (3) assessment data utilization and resource allocation, (4) assessment data utilization and matters of policy, and (5) a decision-making walkthrough.

One of the concerns with the protocol developed for this research was that the conversations could "drift" from the subject at hand. For this study, drift was defined as any response that did not address the question asked, where two or more repeats of the question were required. Such drift could inhibit analysis and result in insufficient data for analysis by core concepts and by question groupings, resulting in an inability to address the research questions. Based on examination and analysis of the data collected during the interviews, the protocol was successful in generating conversations with participants about the questions being asked. Responses aligned to the respective question groupings and core concepts. Content analysis showed that response drift was minimal. Responses from all three participants addressed the questions asked by the researcher without the need to repeat the question. A review of the research field notes and collected data found that this protocol was successful in initiating conversations and exploring the individual practices and perceptions of the use of assessment data in decision making. Interviews were consistent in duration of one hour, all questions were asked, and sufficient data was gathered for analysis.

The interview protocol also supported efforts to provide and contextualize questions about data utilization in decision making as it relates to strategic planning, resource allocation, and matters of policy. Participants were allowed to select the location of the interviews. Allowing the participants to select the location for the interviews appeared to have helped put participants at ease. This was evident as none of the participants expressed discomfort or refused to answer a question. This is further confirmed through field observations of body language, tone, and focus within the interviews themselves.

As anticipated, the time constraints of the participants were considerable. Therefore, development of this protocol into a text-based survey is not advisable. The sequential nature

of the questions supported a well-flowing interview that gave sufficient opportunity for an open-ended discussion while keeping participants and the researcher focused.

Part Three - Findings by Question Groupings

Each interview was organized into five question groups. These question groups were the: (1) introductory group, (2) assessment data utilization and strategic planning group, (3) assessment data utilization and resource allocation group, (4) assessment data utilization and policy group, and (5) decision making walkthrough group.

The Introductory Grouping

The introductory grouping utilized three questions to establish a common understanding with Chief Academic Officers about what they identified as assessment data and to explore their individual use of data in general decision making. The questions were:

(1) When I use the term "assessment data" what types of data come to mind?

(2) If you had a dashboard of data readily available for decision making, what types of data would you have on that dashboard, what would it look like, and how often would you look at it?

(3) In thinking about data in general, what types of data are you most interested in and why?

In response to the first question in this grouping, the participants used broad descriptors to identify what constituted assessment data. As seen in Table 4.1, each Chief Academic Officer had a different perspective on what they considered to be assessment data.

Table 4.1:

Data Identified as Assessment Data

Research	Regional	Private
Faculty Productivity/Teaching Effectiveness	Student Achievement of Learning Outcomes	Departmental Assessment
Subordinate Performance Measures	Course/Program Based Learning	Data for Specialized Accreditation
Collective Program Data	Specialized External Tests Comprehensive Literacy Assessment (CLA)	Institutional Data

In response to the second question in this grouping, two of the three Chief Academic Officers reported having a dashboard of data. The private university's Chief Academic Officer utilized a web-based dashboard and captured data such as student credit hours, credit hours generated by faculty, enrollment, and overall expenditures by program. Frequency of use was indicated as being "every week;" however, that use was focused on budgetary related issues; "I am trying to provide data for deans to be able to monitor their curriculum and to monitor how their resource allocation is working" (Private University CAO, interview, 2013).

The research university's Chief Academic Officer utilized a paper dashboard with similar data, such as enrollment, and student credit hours, as well as faculty productivity in the form of research expenditures. He also articulated a desire to have more comprehensive data such as those found in major external comparison reports.

My dashboard would have all the measures or the variables that are utilized by the AAU, also known as the American Association of Universities, the US News &

> World Report, probably the Times of London Study, and then some others that would probably express the same data on a per capita or a per tenure track or tenured FTE basis (Research University CAO, interview, 2013).

Frequency of use was limited, the research university's CAO noted, "It depends on what I'm doing. Around budget time I probably look at it fairly closely especially when its tough budget times, times when we're maybe particularly actively engaged in strategic planning" (Research University CAO, interview, 2013).

The regional university's Chief Academic Officer reported not having a dashboard. The emphasis was placed on data that would be at the institutional level. She also reported placing an emphasis on the need for longitudinal program data that can demonstrate an individual's and college's progress in meeting objectives.

The third part of the question grouping addressed what types of data each Chief Academic Officer was most interested in and why. As seen in Table 4.2, each Chief Academic Officer had a different perspective on the data that they found most interesting.

Table 4.2:

Summary of What Data CAOs Are Most Interested with Reasoning

Institution Type	Data most interested in	Reasoning
Research	External Reviews of Programs Outcome Performance Measures	" Really, I look at so reviews of graduate programs, written reviews of graduate programs, assessment, or what I call outcome assessment of curricula or curricular experiences"
Regional	Institutional Performance Metrics - Time to Graduation - Diversity - Enrollment in STEM Fields	"Well our state really insists that we have certain performance metrics and so we have a number of ones at the institution level"
Private	Enrollment Numbers	"Those are the numbers that you are constantly paying attention to because that is your revenue"

The Assessment Data Utilization and Strategic Planning Grouping

This question grouping used four questions to explore the concept of assessment data utilization and strategic planning. This question grouping was organized into four questions:

(1) What types of assessment data do you use, see, or ask for when you are leading the institution wide strategic planning process?

(2) Why do you include that assessment data in the process?

(3) What other types of data do you use in your strategic planning process?

(4) What is the working process of how you use all of this data in your strategic planning process?

Both the regional and research universities indicated that the utilization of assessment data in strategic planning was low to non-existent. “The assessment data that I see is whatever is offered by people that want to initiate new programs and are seeking funding. Other than that we really don’t use assessment data” (Regional University Chief Academic Officer, interview, 2013).

“Well, actually we don’t necessarily look at all or we have not in the past looked at a lot of data when planning” (Research University CAO, interview 2013). While each institution reported having a strategic plan, only the private university’s Chief Academic Officer provided clear examples of assessment data use in strategic planning. A summary of the examples of assessment data used in strategic planning can be found in Table 4.3.

Table 4.3

Assessment Data Used in Strategic Planning

Research	Regional	Private
Data that shows progress towards Strategic Goals/Objectives Institutional Productivity Data	Data that is offered by people wanting to initiate new programs Direct Measures of Student Learning (Department or College Level) Enrollment Retention	Metrics Relating to Key Performance Indicators - Integration of Faith - Faculty Scholarship - Self-Reporting Surveys Enrollment Retention Data International Scholars

The second question in this grouping addressed the underlying utility of those data points identified earlier in Table 4.2. The utility of the data varied among all three institutions. For example, the research university's Chief Academic Officer identified that the utility of the data used in strategic planning was a function of institutional practices and internal valuation.

> I think it's because of the way they start the strategic planning process. They start…the point from which they begin…Part of the reason I think is the people involved, everybody wants to feel valued and people start to get a bit nervous if they don't see themselves in the plan, quite honestly (Research University CAO, interview, 2013).

The regional university's Chief Academic Officer identified confusion about what the institution considers to be assessment data, consistency of the data, financial considerations, and distributed leadership.

> So in some areas, and this goes back to whether this is assessment data or not, in some areas I do look at it. When I've got a measure that I know is pretty standard across, so when we look at the number of students in classes or the retention rates or diversity or something like that I can look at that across different departments, and I do make strategic decisions, financial decisions especially looking at those data. But when you get beyond those standard kind[s] of institution-level metrics, I don't have comparable data (Regional University CAO, interview, 2013).
>
> So for me to ask people to send in their assessment reports I would really be looking at apples to oranges type of thing. So it would be–while I'd be really curious about it, I would love to read those–it's not going to help me in making an actual decision.

> That would be something that I would rely on the deans to do (Regional University CAO, interview, 2013).
>
> That they can look at management versus accounting and make a sensible judgment about what those assessment reports say, because I think for us they're in a non-standard format too, so it's highly dependent on who wrote those reports and that kind of thing (Regional University CAO, interview, 2013).

The private university's Chief Academic Officer took a very unique approach to the utility of the data. Not only did she identify that the utility of data was a function of the strategic plan, she also referenced the need to evaluate if the data had meaning or if different metrics were needed.

> And actually when we developed our strategic plan when our new president came in that was–it was new to us to be very specific in each of our KPIs to say–to identify the data source and then to set up a dashboard to monitor it…We present the dashboards and our progress on each KPI, and that is a question we are constantly asking. Here is where we are. Did we use the right indicator to measure this? Are we making the progress the way that we want to make progress? (Private University CAO, interview, 2013)

The third question in this grouping asked what other types of data was used in the strategic planning process. Each Chief Academic Officer reported a different type of data in response to this question. The private university's Chief Academic Officer referenced data that related to identified performance indicators. "Wow, it seems like the majority of data that I am tracking has–I can fit it into one of our key performance indicators." She indicated that comparative external data, such as faculty salaries, was also important.

The research university's Chief Academic Officer focused on data that related to the financial feasibility of the goals within the strategic plan.

> I suppose this is data, I think you need to have some idea as to how much you're prepared to spend ... ... you have to ask yourself how much is it going to cost to achieve that goal? And then based on the answer to that is it worth it? (Research University CAO, interview, 2013).

The Research University CAO also referenced the concept of "investments" and "return" within their identification of data.

> " It's probably going to have a number, a guesstimate, and then is it worth it? It means you probably got some other number or idea as to what the investment might realize…because generally there's a revenue or there's a monetary return (Research University CAO, interview, 2013).

The regional university's Chief Academic Officer focused on data relating to undergraduate education, diversity, and the need to actually collect those types of data.

> So for us our priority's undergraduate education; most of our students are undergraduates, so a lot of it has to do with those kinds of instructional level kinds of variables. But diversity would be important and we don't–we are not collecting these data in a good fashion right now but I'm hoping eventually we will (Regional University CAO, interview, 2013).

The fourth question in this grouping, which addressed the working process of how the individual Chief Academic Officers used data in their strategic planning process, yielded the most extensive response within this question grouping. Each Chief Academic Officer reported their process in the current tense. The overall process used, the use of data, and the

focus on the data for each institutional type, are summarized for each institutional type in Table 4.4.

Table 4.4

Process, Use, and Focus of Data in Strategic Planning

	Research	Regional	Private
Overall Process	Committee Based, Top-Down	Bottom-up Process	Committee Based, Executive-Distributed
Use of Data	"We will have some specific benchmarks or dashboards of data or measures that we're going to use to help guide us with respect to assessing the progress we're making and also help us to keep our eye on just where we're trying to get to."	"We're pushing people into a situation where they're looking at data, they're collecting it, they're designing studies, they're asking themselves the important questions and letting that percolate up."	"What we are trying to do now is prioritize which objectives we try to move forward because there are limited resources. And so the data helps you decide which objective we can make progress on."
Focus on Data	Data that has meaning Data that can be calculated as accurate Data that enables comparisons, externally, over time.	"Looking at what are the strategic objectives of the university especially with respect to academic programs, we're really looking at data from outside the institution."	Measure the process of our progress Data must be relevant to the components of the strategic plan

The Assessment Data Utilization and Resource Allocation Grouping

This grouping used the following nine questions to explore with participants their perceptions and practices on assessment data utilization regarding resource allocation:

(1) When developing and finalizing resource allocation plans, how does

assessment data shape your decision-making process?

(2) Is there a specific type of assessment data that impacts the budget process more than others?

(3) What other types of data do you consider when developing and finalizing the budget and why?

Questions four through eight were scale response questions. On a scale of extensively, moderately, somewhat, or minimally, please rate your usage of:

(4) Student learning outcomes relating to resource allocation,

(5) Course outcomes relating to resource allocation,

(6) Program outcomes data relating to resource allocation,

(7) Institutional outcomes relating to resource allocation, and

(8) Other identified data relating to resource allocation.

The final question was:

(9) Can you walk me through an example of how you used data to make an institution-wide, resource-allocation decision?

The first question in this grouping addressed how assessment data shaped the Chief Academic Officer's decision-making process regarding resource allocation. Two of the three universities referenced the impact of the recent economic downturn as factors in resource allocation. The research university's Chief Academic Officer focused on comparative data and the recommendations of a select few:

> We haven't had any resources to really allocate. I had a taskforce last spring that really did a tiptop job on providing me with some guidelines on resource allocation. And so I would basically be referring to that, the recommendations and the way in

> which we look at things, you know, use data to make some comparisons (Research University CAO, interview, 2013).

The regional university's Chief Academic Officer provided explicit examples of a triage approach to resource allocation. Program enrollment and an evaluation of program quality were reported. However, the primary use of data in resource allocation was identified as being tied to preserving students' access to classes. This was referenced as a key strategic objective. Overall, reactive approaches to the data were referenced.

> I would say in the level of cuts that [OUR UNIVERSITY] took over three years, in the past three years there really was not much planning and so forth. People–we just cut wherever we could. We did not cut any tenured faculty lines or any tenured faculty or tenure track faculty. And beyond that there really–and we cut a ton of staff; there really was not an opportunity to look much beyond where the possibilities were and so forth. We did take a strategic priority preserving students access to classes; so that was–that was a strategic priority (Regional University CAO, interview, 2013).

The private university's Chief Academic Officer focused on assessment data being used as a means to justify requests and evaluate market conditions. Specifically, when the request involved issues such as faculty lines, assessment data were used to evaluate relative demand and return to the institution. For example, "the data or student credit hours generated, class sizes and departments, student enrollment, all of those things make a strong case for [the request where] we desperately need a faculty member" (Private University CAO, interview, 2013). The use of data also extended into an evaluation of external market data/demand for programs.

> For example, in continuing studies we would like to offer a new site, one of our continuing studies programs at a new site. What is the data what is the market data that you have, dean, to help me understand that this is going to work? That how many students are we going to get? What have you done to go out and check the market? Because if we can generate new revenue, that is another good argument for me for a faculty line (Private University CAO, interview, 2013).

The second question in this grouping addressed whether or not there was a specific type of assessment data that impacted the budget process more than others. Responses from the regional and the private university's Chief Academic Officers were brief. The regional university's Chief Academic Officer focused on "accreditation [issues] that could affect it" (Regional University CAO, interview, 2013).

The private university's Chief Academic Officer focused on enrollment and faculty lines, using an inputs to outputs production approach metaphor. "Well, it is probably enrollment data. Because [the] biggest requests are always faculty [positions]. And your enrollment data is going to impact your supply lines and your faculty [positions]" (Private University CAO, interview, 2013).

The research university's Chief Academic Officer, however, gave an in-depth response to this question. The response focused on internal comparative data and overall production/return on investment data.

> Well, you got to have data because everybody if you're relying on everybody to tell you they're all fantastic, they're all working hard, couldn't work harder, and they're all fantastically productive, and could be even so much better if you gave them more, but it would just be an absolute catastrophe if you gave them less….Try to get an idea

of the comparative cost for the existent investment, if you like, that we're making in a program and compare it to what the apparent outcome is or return in terms of students taught, degrees granted, etc., and we put a number on those (Research University CAO, interview, 2013).

The third question in this grouping explored what other types of data the Chief Academic Officers consider when developing and finalizing the budget and why. A summary of those identified data points are presented in Table 4.5.

Table 4.5

Other Types of Data Used in Resource Allocation

Research	Regional	Private
	Student Enrollment	
	-Over Enrollment	Enrollment
F&A Recovery	-Under Enrollment	
	-Transfer Rates	Retention
Enrollment	-Wait-lists	
		Faculty Development
Extramural per Faculty FTE	Pass Rates in Classes	Needs
	Diversity	Tenure and Promotion
Institutional Research Productivity	External Comparison Data	Faculty Hires
	-National Studies	
Number of Faculty	-Comparisons to other in-state institutions	Technology
		-Infrastructure
	Students in the Major	

Questions four through eight in this grouping addressed five similar questions about data use. The questions addressed the individual categories of assessment data as outlined by Suskie, and asked each Chief Academic Officer to evaluate their individual usage of that data

on a four-point scale of extensively to minimally. The responses to each of those questions can be seen in Table 4.6.

Table 4.6

Use of Data from Suskie Categories in Relation to Resource Allocation

Level of Data as Described by Suskie	Research	Regional	Private (non-profit)
Student	Somewhat	Not at all	Somewhat
Course	Somewhat	Not at all	Somewhat
Program	Moderately	Not at all	Extensively
Institutional	(fairly) Extensively	Don't use	Extensively
Other Identified Data	Extensively–(Productivity) Somewhat (all others)	Somewhat	Extensively

The final question in this grouping asked each Chief Academic Officer to provide an example of how they used assessment data in an institutional resource allocation decision. The research university's Chief Academic Officer provided an inconclusive answer. That Chief Academic Officer only reiterated those data points previously identified.

The private university's Chief Academic Officer (2013) responded, "first of all making sure that you have all the data that you need to make the decision." The interpretation of the data was also shared among others. "I am leaning heavily on the people that are closer to the need …to help me interpret the data" (Private University CAO, interview, 2013).

Context analysis shows that the overall use of data are embedded within the individual decision. For example, the regional university's Chief Academic Officer reported

a similar approach. The use of data in resource allocation is highly specific and responsive to the topic. When discussing enrollment issues, particularly the issue of wait-lists and the continued funding of high-demand fields, the regional university's Chief Academic Officer (2013) said:

> Well you delegate some decisions that depend on data such as we have emergency bottleneck funding that we [NAME REDACTED] requires data demonstrating. The department has already stretched in all the ways they can and so we use [Full Time Enrollment] FTE for [Student Credit Hours] SCH guidelines, we use dollar costs per SCH. We use bottleneck waitlist data, historical–because you don't want to reward bad planning (Regional University CAO, interview, 2013).
>
> When we developed budgets last time we kind of carved some extra money off the top, and I looked at the number of the ratios of students in the major and student credit hours to faculty and made a portion of the allocation contingent on that (Regional University CAO, interview, 2013).

The Assessment Data Utilization and Policy Group utilized six questions to explore the Chief Academic Officer's role within the institution regarding policy and how assessment data influenced decisions regarding matters of policy. Six questions were asked:

(1) As provost, at what level do you get involved with the development or revision of institution wide policies?

(2) Do you believe that assessment data drives policy creation?

(3) If you could see any type of assessment data in your work on institution wide policies, what data would you like to see/currently use?

(4) Could you expand on why you identified that data?

(5) If you could, or do see any other type of data as you are conducting your work on institution wide policies, what other data would you/do you look at?

(6) Could you please expand on why you identified that other data?

The first question in this grouping examined the level of involvement that each Chief Academic Officer had with the development and/or refinement of institutional policy. Each Chief Academic Officer provided a moderately extensive explanation as to their individual level of involvement with institutional policy. Table 4.7 illustrates the responses for each CAO and their involvement with institutional policy.

Table 4.7

Summary of CAO Involvement in Institutional Policy Matters

	Research	Regional	Private
Draft/Revise Policies	Academic–Yes Non-Academic, Potentially	In Conjunction with Deans	Yes
Authorize Policies	Yes	Approval for Development Yes	Not answered
Chair/Participate in Committees on Policies	Not answered	Yes	Yes

The second question addressed whether or not assessment data was a driver of institutional policy. The Private Institution Chief Academic Officer indicated, “It should, definitely should.”

The research institution’s Chief Academic Officer said, “It must or it does because, what’s the word, it influences the way you think and the way you think reflect, analyze, often leads to policy changes.”

Both provided strong indications that assessment data are in fact a driver of institutional policy. The regional institution's Chief Academic Officer answered in the affirmative, but did have a bit of response drift to this question.

This question also inquired about the reasoning behind the Chief Academic Officers' responses to assessment data as a driver for institutional policy. The responses all indicated a reactionary approach to the influence of assessment data on policy. For example, the private university's Chief Academic Officer indicated that when practices were impacted by certain policies, such as admissions were not producing the expected results, a review of data could lead to a policy change. The regional university's Chief Academic Officer indicated that the use of assessment data in shaping institutional policy was a result of a requirement by accreditors. The research university's Chief Academic Officer indicated that data could be used to understand an adverse event. Such an adverse event would require a new/revised policy to prevent repeat occurrences.

The third and fourth questions in this grouping examined what assessment data the Chief Academic Officers would like to use, or currently use in their work regarding institutional policy. This part of the question group also captured the underlying reasoning behind the identification of that data. A summary of the data identified as assessment data and used in institutional policy decisions, with supporting examples, is provided in Table 4.8

Table 4.8

Summary of Data Identified asAssessment Data and Used in Policy Decisions

	Identified Data	Supporting Evidence
Research	Undergraduate Instruction	"It's probably going to be data, right, that pertains to the entire institution."
	Research/Scholarship	"It's the bulk of what we do. It's why we're here."
Regional	Student Feedback six months into first position	"What's the next step for them and did they get the job that they wanted and why or why not and something like that."
	Employer Feedback	"I think it would be the richest because the students experience is going to be the richest of it and anybody else that would be involved. I trust our students to–you know they tend to be pretty highly motivated and maybe as self-reflective as you can find among students that age. And I think this idea of whether universities are really preparing their graduates for life after the university."
Private	Enrollment Data	"I think often times a recommendation for a policy change comes because someone has experienced something that they did not like or they have made some noise that this policy is not working. "
	Faculty Load	
	Student Credit Hours	"When I think of policy, part of our policy because we are a private Christian institution, part of our policy is things related to our faith based institution. So there may be data that is different than a public would look at."
	Student Surveys (Satisfaction)	

Each Chief Academic Officer was also asked about the use of data in making institutional policy, this time with a focus on other types of data. In response, each Chief Academic Officer offered a list of data and an underlying reason as to the selection of that data in the context of policy related matters. A summary of other data identified as being used in policy decisions, with supporting evidence, can be found in Table 4.9.

Table 4.9

Summary of Other Data Used in Policy Decisions

	Identified Data	Supporting Evidence
Research	Trends or Legal Opinions that Impact Existing Policies	"Policies are basically institutional documents."
Regional	Affirmative Action Workforce Demographics Student Access to Classes National Survey of Student Engagement	"Sort of that anecdotally like there was a guy who was head of R & D at [MAJOR LOCAL MANUFACTURER] said, 'If we need something invented I always go to your engineering graduates rather than the [LOCAL RESEARCH UNIVERSITY] because your folks are more creative.'"
Private	Alumni/Parent Surveys	"They are our constituent base and they are both our customers and who is interested in us as an institution."

The Decision Making Walkthrough Question

The final group consisted of a single, open-ended, compound question that explored with Chief Academic Officers how they integrate assessment data into their overall decision-making process. Each Chief Academic Officer provided a slightly different response to the question.

The private university's Chief Academic Officer responded by articulating the need to define the decision to be made, identify stakeholders, and being mindful of the impact and potential consequences of the decision. As she described, the definition of the decision included articulating that a decision was synonymous with change:

> Things that I keep in mind. One is I need to make sure there is a decision that needs to be made and that I am the right one to make the decision. I mean, that is very important to determine because people may be saying, "We need to change, we need to change." And I think as an institutional leader you have to step back and say, do we really need to change? (Private University CAO, interview, 2013)

The identification of those involved included those who would have to help make the decision "Who do I need to gather [information] from? Who all needs to be involved in the decision?" (Private University CAO, interview, 2013) It also considered those who would be impacted by the decision. The Private University CAO continued:

> Who all would be impacted by the change? So trying not to make decisions. It is OK to spend time in that gray area before you make a call because once you made a decision at this level you do not–it is really tough to go back. You need to be very certain of your answer and certain of all the reasons that you have made it because there will be a lot of questions (Private University CAO, interview, 2013).

The regional university's Chief Academic Officer identified a decision-making process that included a broad collaborative approach. She also indicated the use of intuition and extensive collection of information to help support her decision-making process.

> I rely to the extent that I can get good data, I run ideas by people. The opinions I trust and sometimes people like those opinions I don't trust; I'm just kind of curious what

> the reaction is going to be. So I do a lot of consultation within the formal chain as well as informal chain, you know people that I know that maybe work in other institutions or similar processes or people here that are involved in the process but aren't a decision maker; I might check in with them. So I do a lot of collecting of information and then I a lot of times rely on my intuition and I've been doing this work so long that I think it's served me pretty well (Regional University CAO, interview, 2013).

The research university's Chief Academic Officer also indicated the gathering of data was important in decision making. The perspective taken was that decisions were of a high level, and accordingly, they needed to be aware of things at a macroscopic level.

> You have to be as well informed as possible and that can mean all sorts of things. Sometimes you got to sort of be just aware of sort of almost at a high level, organizational needs, or practicalities, and other times you really got to get down into the weeds, and dig and delve and get down and sort of very close to information that by and large would be more the purview of a chair or a dean but just depending on the nature of the matter at hand (Research University CAO, interview, 2013).

Several types of data were again referenced, including student full-time enrollment (FTE) at all levels, distribution of grants and contracts, facilities and administrative costs, administration expenditures, direct instructional expenditures, and student FTE per faculty.

Part Four - Findings by Core Concepts

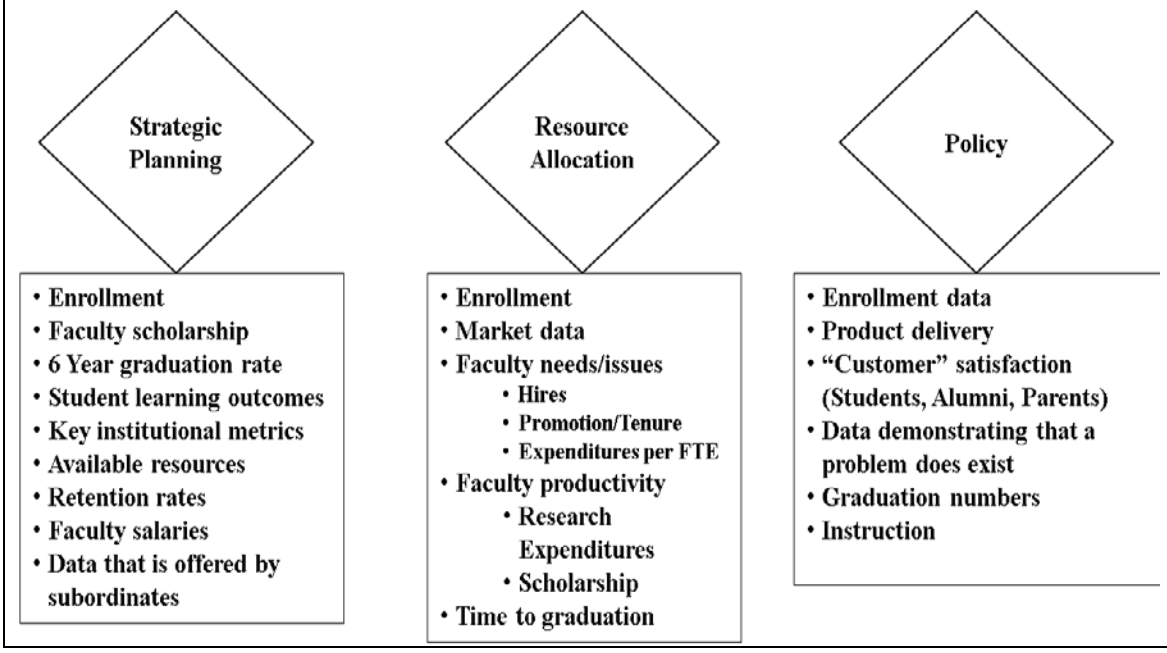
The *a priori* codes established for this level of analysis utilized the three core concepts of the study research questions: (a) what data are used, referred to as the "what" concept; (b) how data are used, referred to as the "how" concept; and (c) the utility of the

data used, referred to as the "utility" concept. The analysis also used decision making as the context and strategic planning, resource allocation, and matters of policy as the focus.

The "What" Concept

The what concept refers to assessment data that was identified by the Chief Academic Officers as being used in strategic planning, resource allocation, and/or policy decisions. Keyword and pattern analysis showed that several specific data types and key terms were used by the respondents in identifying the types of data used in their decision making. A graphical inventory of the findings relating to the what core concept can be seen in Figure 4.1.

Figure 4.1 Graphical Taxonomy of the What Core Concept



The specific types of identified data included learning outcomes at the program and departmental level, enrollment, student credit hours, various predefined institutional performance metrics, time to graduation, reviews of programs both from graduates and

external sources, and outcome assessments of curricula or curricular experiences. The Chief Academic Officers varied in what assessment data came to mind for them. As illustrated in Table 4.9, the Chief Academic Officers of each institution took a different focus on the types of assessment data they were most interested in.

Table 4.10

Types of Data Identified by CAOs as "Assessment Data"

	Types of Data	**Contextual Focus of Data from Interview**
Research University	Scholastic productivity Quantitative aspects of the undergraduate experience External reviews of programs (graduate) Subordinate evaluations in relation to expectations Outcomes assessment of curricula	Data are quantitative in nature, and serves to make comparisons about institutional productivity
Regional University	Performance metrics Time to graduation Credit hours at graduation Diversity External Evaluations (CLA) Student indebtedness	Data reveals information about student learning, but the focus of the data use is on the institution, not the student
Private University	Enrollment numbers Student credit hours Projected enrollment	Data supports the achievement of strategic planning indicators and specialized accreditors

As a reference point, the Chief Academic Officers were asked a hypothetical question to connect their initial identification of data to an actual situation. Using the example of a "data dashboard" the participants were each asked what data would be on their dashboard and how often they would use it. The frequency of each Chief Academic Officer's use of the

data varied depending on the existence of an actual dashboard. The data further indicated that the Chief Academic Officers in this study were looking at data that correlates to program or institutional level data. Individual student learning outcomes and specific course outcomes were not identified. The Chief Academic Officers who had dashboards used them primarily to review data on issues relating to resource allocation. For example, the private university was still developing an infrastructure to share data among deans. However, the private university did have a system in place to monitor real time and projected enrollment at the provost level.

> We have a dashboard that I look at every week on our enrollment for our next year; just our regular day undergrad program. And so we are updating that constantly and getting reports about how is our enrollment; how are our enrollment numbers looking for next year. Around budget time I probably look at it fairly closely especially when it's tough budget times, times when we're maybe particularly actively engaged in strategic planning (Private University CAO, interview, 2013).

The general focus of a dashboard at the research institution was institutional productivity issues, such as extramural grants awarded, and degrees conferred. The dashboard at the private university's focused on enrollment issues. The regional university's Chief Academic Officer took a production-oriented approach by focusing on issues such as employment of graduates, number of graduates, and how long it took them to complete their program of study.

Regardless of the specific types of data identified, each Chief Academic Officer had a different focus and interest in the data they used. As the interviews progressed, each participant broadened their data examples to larger categories. The regional university's

Chief Academic Officer also focused on the comparison concept with externally identified performance metrics as a priority "our state really insists that we have certain performance metrics, and so we have a number of ones at the institution level" (Regional University CAO, interview, 2013).

The research university's Chief Academic Officer further utilized external reviews of the institution. "Really, I look at reviews of graduate programs, written reviews of graduate programs, assessment, or what I call outcome assessment" (Research University CAO, interview, 2013).

Finally the private university's Chief Academic Officer focused on enrollment and revenue issues when discussing her dashboards. "Student credit hours generated by program type, those are the numbers that you are constantly paying attention to because that is your revenue" (Private University CAO, interview, 2013).

Faculty-related issues also emerged in the analysis of the what core concept. Particular emphasis on faculty needs, productivity, and professional development were identified in all Chief Academic Officers' responses. The findings and emphasis on data relating to faculty issues shows a prominent use of data to justify faculty positions and needs. As a result, faculty data, related needs, requests, and affiliated issues are integrated most prominently into the resource allocation process and then into the strategic planning process.

Another type of data identified relates to enrollment. The issue of enrollment, including affiliated issues such as diversity, time to graduation, and overall credit hours, appears to also be well integrated into the resource allocation process. Interview data shows that the recent economic downturn has put considerable pressure on the participants' institutional budgets. Each of the institutions appears to have focused heavily on their

enrollment over the past few years. The private university, which relies on endowments and tuition to cover operating expenses, had the greatest emphasis on enrollment issues.

> We are paying close attention to that funnel data to see how are we doing with students already enrolled in the program but what is our pipeline. And is our pipeline looking the way we want it to for our programs? That is probably the data that I am paying the closest attention to now. And primarily because we are trying to do revenue projections (Private University CAO, interview, 2013).

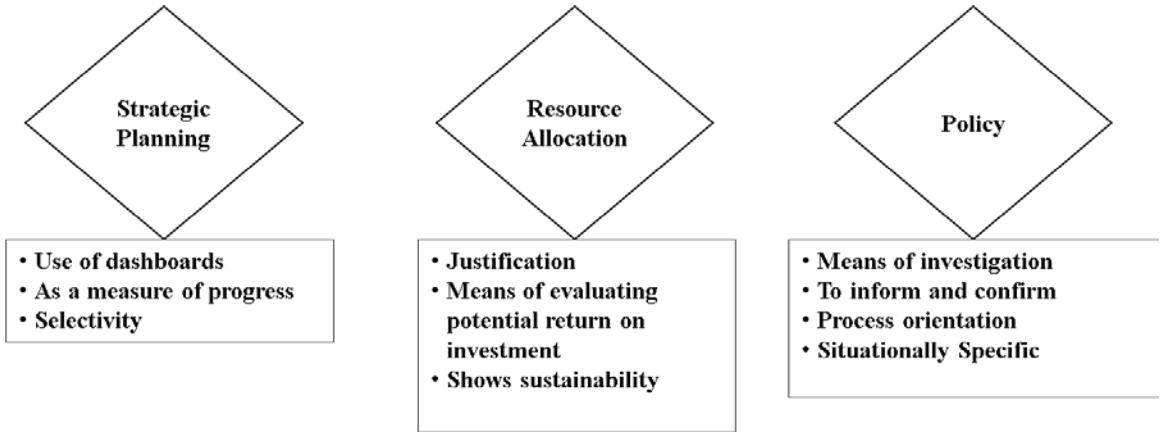
All three interviewees indicated that student learning outcomes are an important type of data. However, minimal examples were provided to suggest that student learning outcomes were a primary type of data used in strategic planning, resource allocation, or policy. None of the Chief Academic Officers interviewed indicated that student learning outcomes received more than a "cursory glance" because that type of data either was too qualitative (research university), too anecdotal (regional university), or too disparate from their professional responsibilities (private university). The private university's Chief Academic Officer did expand on student learning outcomes and their interrelation to the private university's strategic plan; however, the focus was solely on the religious connections of integrative faith and learning. Additional data points relating to students focused more on enrollment, engagement, credit hours earned, access to classes, and the need for longitudinal follow-ups with graduates on skills attained and relevance to their employment post-graduation.

The "How" Concept

The how concept focused on how the data identified in the what concept were actually used when making decisions regarding strategic planning, resource allocation, and

policy decisions. The how concept was also connected to the research question, "How does a Chief Academic Officer utilize assessment data in making decisions regarding strategic planning, resource allocation, and policy creation?" As the how concept is conceptually grounded in that question, the analysis of this second core concept provides insight into the operational approaches to decision making by the three Chief Academic Officers that were interviewed. Furthermore, the how research question and core concept served as a way to explore the intersection of constructivism and DDDM. A summary of the findings relating the how core concept can be seen in Figure 4.2.

Figure 4.2 Graphical Taxonomy of the "How" Core Concept



The data indicated that there were three key dimensions to how assessment data are used regarding strategic planning. Those dimensions are: (1) use of summary data or dashboards is necessary for decision making, (2) data serves as a measure of progress, and (3) data are selectively identified.

The interviews showed that, when data are available, it must first be presented in some manageable form. Each Chief Academic Officer had a series of reports and/or a

dashboard of data available to them for decision making. As discussed earlier, the data comprising the dashboard varied. How that data were used also varied among all three Chief Academic Officers. Throughout the interviews, each Chief Academic Officer referred to the data that they did have, or would like to have, when making decisions. The data identified in the second introductory question, when compared to the variety of data identified in the what concept indicated that summary data were used mainly as a measure of progress.

The second dimension, called measure of progress, identified how data were used. This dimension addresses the use of assessment data for both strategic planning and policy decisions. For example, the private university's Chief Academic Officer commented on a question they ask themselves: "Are we making the progress the way that we want to make progress?"(Private University CAO, interview, 2013)

The research university's Chief Academic Officer also identified data as a measure of progress:

> We will have some specific benchmarks or dashboards of data or measures that we're going to use to help guide us with respect to assessing the progress we're making and also help us to keep our eye on just where we're trying to get to… (Research University CAO, interview, 2013).

The third dimension relates to the selectivity of the data. This dimension found that in regards to strategic planning, data are chosen based on relevance to the plans at hand. Furthermore, how data were used depended upon what data were available.

> When I've got a measure that I know is pretty standard across so when we look at the number of students in classes or the retention rates or diversity or something like that,

> I can look at that across different departments, and I do make strategic decisions (Regional University CAO, interview, 2013).

Furthermore, the private university's Chief Academic Officer indicated a high degree of assessment data use in strategic planning. This usage was reported to be a result of the strategic plan.

> In the process of developing this strategic plan what we did differently from previous strategic plans is try to be very explicit about if we stated we had an objective, we said how would we know when we met that objective? And we were very specific in trying to identify which data sources would help us to know that we had met that objective (Private University CAO, interview, 2013).

In regards to policy matters, assessment data were again used after the fact to evaluate issues. Four key dimensions emerged from the interview data on how assessment data are used in decision making regarding matters of policy. These dimensions were: (1) as a means of investigation, (2) to inform and confirm, (3) to support a process-oriented approach, and (4) that the use of data is situationally specific.

As a means of investigation, assessment data use in matters of policy was reported as support for understanding events that had occurred. For example:

> You are going to be continuing to monitor the data and if you realize that the data is not the results that you were hoping for you are probably going to go back. You should go back and make some policy changes (Private University CAO, interview, 2013).

> It must or it does because–what's the word–it influences the way you think and the way you think reflect, [and] analyze, often leads to policy changes. But the–in my

> mind–it's not always sort of an overt application of data. You know, people aren't consciously saying, well, these numbers say that; therefore, we're going to change the policy. A lot of it is based on practice. Fortunately, it's often the result of a problem that has to be corrected. But in a number of instances particularly as it pertains to, again, in particular scholarship or research policies might change on the basis of numbers (Research University CAO, interview, 2013).

The second dimension, inform and confirm, describes how assessment data are used to verify the facts and/or outcomes of a situation before embarking on a new or revised policy. The most pertinent example came from the private university's Chief Academic Officer:

> When we make policy changes–I think often times a recommendation for a policy change comes because someone has experienced something that they did not like or they have made some noise that this policy is not working. What we need to do then is go back and say well, it is not working maybe for that person. But let us look at the data to see is this an ongoing pattern? Is this a trend? Is this something that we really need to make a change? And if we need to make a change, what data will inform whether we make the change that we have made the right change? (Private University CAO, interview, 2013).

The interview data also supports the third dimension, which is referred to as a process-oriented approach. This process-oriented-approach dimension describes the various organizational structures to supporting policy decisions within each individual institution. While the exact nature of the process was beyond the scope of this research, the interview

data suggests that each institutional Chief Academic Officer had, and/or participated in, a process to review available data and make policy decisions or recommendations.

The variability in each institutional policy, as described by the participant Chief Academic Officers, also supported the fourth dimension, which is described as situational specificity. Each Chief Academic Officer reported a different approach to how assessment data were used in matters of policy. The third question within the assessment data and policy grouping asked, "If you could see any type of assessment data in your work on institution-wide policies, what assessment-specific data would you like to see?" The responses to this question indicated how assessment data were used when making policy decisions was largely a function of the policy situation at hand and what the available data showed may have already happened.

As a result, how assessment data were used in strategic planning and policy appeared to be reactionary in nature. In contrast to this reactionary approach, assessment data appeared to be proactively used in matters regarding resource allocation. Three key dimensions were identified within the how concept, as it related to assessment data and resource allocation: (1) justification, (2) evaluation for potential return on investment, and (3) sustainability.

The first dimension, titled "justification", was identified in the interview data as a means of using data to justify a request for funds. Chief Academic Officers in this study all indicated having some measure of control over resources, usually financial. Control over resources was exercised through the development of budget plans, the approval of faculty positions and hires, as well as the allocation of various types of funds for strategic investment. For example the private university's Chief Academic Officer stated:

> We have made some funding available at the university strategic initiative fund. And faculty, staff, administrators are applying right now for this money that would help them to help us to make progress on one of these objectives (Private University CAO, interview, 2013).

> Assessment data is definitely going to shape which faculty you are going to be requesting in your new faculty lines. Because–and that goes back to the data or student credit hours generated, class sizes and departments, student enrollment, all of those things make a strong case for we desperately need a faculty member. Deans are using the data that we are providing them to make an argument for this faculty line (Private University CAO, interview, 2013).

And the research university's Chief Academic Officer said:

> I had a taskforce last spring that really did a tiptop job on providing me with some guidelines on resource allocation. And so I would basically be referring to that, the recommendations and the way in which we look at things, you know, use data to make some comparisons (Research University CAO, interview, 2013).

The second dimension prevalent in the data describes how assessment data were used to evaluate the potential "return on investment." In summation, the interview data provided examples of how assessment data were used to justify resource allocations. For example, "investment" was used repeatedly throughout the interviews. In many instances, the term invest was used interchangeably with the idea of allocation. "Try to get an idea of the comparative cost for the existent investment, if you like, that we're making in a program and compare it to what the apparent outcome is or return" (Research University CAO, interview,

2013). The return on investment dimension was, however, identified on more than the term "investment."

> For example, in continuing studies we would like to offer a new site, one of our continuing studies programs at a new site. What is the data–what is the market data that you have, dean, to help me understand that this is going to work? (Private University CAO, interview, 2013).

> Just institutionally how are we doing at delivering our product? And how are we doing at being able to do that in a way that has high satisfaction to our customers, which would be both our faculty and students (Private University CAO, interview, 2013).

Context analysis found this idea of return on investment was also closely related to the third and final dimension called "sustainability." Each of the Chief Academic Officers referenced their institution's struggles with budget reductions over the past several years. The return-on-investment approach appeared to be tied to these budget reductions. "What we are trying to do now is prioritize which objectives we try to move forward because there are limited resources" (Private University Chief Academic Officer, interview, 2013). "We've reduced our state funding by half" (Regional University Chief Academic Officer, interview, 2013). "Yeah, and we haven't thought about, we haven't had any resources to really allocate" (Research University Chief Academic Officer, interview, 2013).

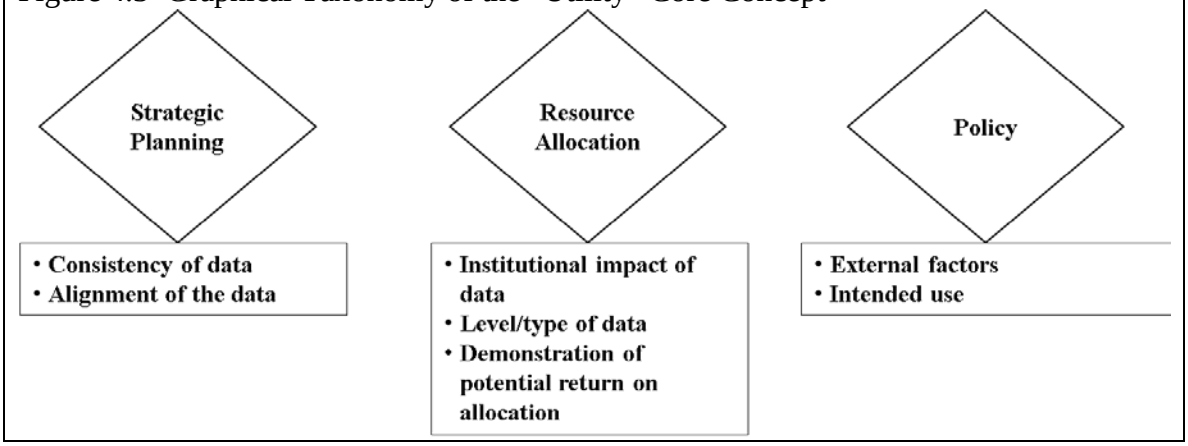
The three previous quotes captured the essence of what the participant Chief Academic Officers have been dealing with regarding resource allocation decisions. The sustainability dimension represented the efforts of the Chief Academic Officers to balance institutional needs with the objective of maintaining the financial solvency of the institution

as a whole. The interview data further showed how the selectivity dimension became partially embedded into the sustainability dimension when Chief Academic Officers select data sets from programs and/or initiatives that have the greatest potential to maintain or increase institutional resources. This can be through streamlining increases in efficiency or increased teaching and/or research capacity.

The "Utility" Concept

The utility concept explored the underlying utility of assessment data in relation to making decisions about strategic planning, resource allocation, and matters of policy. As illustrated in Figure 4.3, two dimensions of utility were identified related to strategic planning, three dimensions related to resource allocation, and two dimensions related to policy decisions.

Figure 4.3 Graphical Taxonomy of the "Utility" Core Concept



The interview data identified two key dimensions impacting the utility of assessment data relating to strategic planning. These dimensions were the consistency and the alignment-of-data. The consistency of the data related to data that was comparable, stable,

and allowed for “apples to apples, rather than apples to oranges to pineapple” comparisons (Research University CAO, interview, 2013).

As discussed in the how core concept, assessment data served as a measure of progress in strategic planning. The dimension of consistency stemmed from that measure of progress dimension, as indicated by the interview data.

> When I’ve got a measure that I know is pretty standard across, so when we look at the number of students in classes or the retention rates or diversity or something like that, I can look at that across different departments and I do make strategic decisions, financial decisions especially looking at those data. But when you get beyond those standard kinds of institution-level metrics I don’t have comparable data (Regional University CAO, interview, 2013).

The alignment-of-data dimension described the need by the Chief Academic Officers to see data that were relevant and aligned to the strategic plan. For example, “We are always asking the question, are we really finding the data that we need?” (Private University CAO, interview, 2013)

The three key dimensions relating to the utility of data regarding resource allocation are: (a) the impact of the data, (b) the level and type of the data, and (c) the ability of the data to show a potential return on the allocation.

The impact-of-data dimension described a concept of relative value of the data in relation to the strategic objectives. As described by the private university’s Chief Academic Officers, “So it depends on what objective I am looking at what data I am going to be paying attention to monitor that” (Private University CAO, interview, 2013).

The level and type of data dimension was a powerful dimension that described the grouping of data. Throughout the interviews, Chief Academic Officers expressed practices and intentions to use data that were grouped by either program level or higher. As presented earlier in Table 4.9, the types of assessment data that Chief Academic Officers used was focused at institutional-level data. Throughout the interviews, individual student learning outcomes did not appear to be a type of data that had any influence on the utility of decision making regarding resource allocation. Course level data was also found to have a minimal to non-existent impact on resource allocation decisions, with the exception of access to classes, as described by the regional university's Chief Academic Officer. Program and institutional-level data, however, had high utility in influencing resource allocation decisions. The third dimension, or potential return on allocation, described a phenomenon that was identical to the return-on-investment dimension, discussed earlier and presented in Figure 4.2. If the data can show that there would be a return on the allocation, the interviews suggested that such data would have a higher influence on a resource allocation decision.

The two key dimensions on the utility of assessment data relating to matters of policy are external factors and intended use. The findings from the interviews showed that policy issues were highly specific to the situation and to the institution. The external-factor dimension represents the findings that indicate the utility of assessment data were driven, in part, by factors beyond the institution. Many of the policy examples discussed focused on internal issues, such as enrollment and admissions. However, the policies themselves were evaluated based on external factors, such as enrollment in high demand fields. Policies on resource allocation, for example, were guided by external demand for new programs, or by subsequent data that supported internal arguments with external factors. Furthermore,

external factors such as legal rulings and adverse events, had a major influence on the utility of assessment data in matters of policy.

> Let's say you decide to revise the policy on sexual harassment. Why? It might be because of something you've noticed, some trends here, which are data driven, or you might do it because of some legal opinion somewhere else or a legislative action that forces you to change it. So it just depends on all sorts of personnel policies, and the like, which are bounded in law, collective bargaining rights, legislative statute, things like that. Legal opinions are what I meant by law (Research University CAO, interview, 2013).

The intended-use dimension was also identified as having an influence on the utility of assessment data in policy decision making. Selectivity in data can be seen throughout the what and how concept findings. Chief Academic Officers had multiple opportunities to identify and define what assessment data influenced their decision making about not only policy, but strategic planning and resource allocation. In matters of policy, the use of the data were indicated as needing to match the issue at hand. For example, policy issues were found to be reactionary in nature. "It doesn't matter what I think, sometimes you got to change the policy because you're required to do so to be compliant, the regulation or regulatory body" (Research University CAO, interview, 2013).

Part Five - Identified Themes

Building on the primary units of analysis, the analysis by question group and by core concept–several themes and patterns were identified. As discussed in Chapter three, a graphical taxonomy of the findings was constructed to visually present the findings by core concept, dimensions, and alignment to identified themes. According to Braun & Clark

(2006), “A theme captures something important about the data in relation to the research questions and represents some level of patterned responses” (p.82). The Grand Taxonomy is presented in Figure 4.4, and a summary of the major themes identified in this study can be seen in Table 4.10.

Figure 4.4 Grand Taxonomy of Questions, Core Concepts. Dimensions and Themes

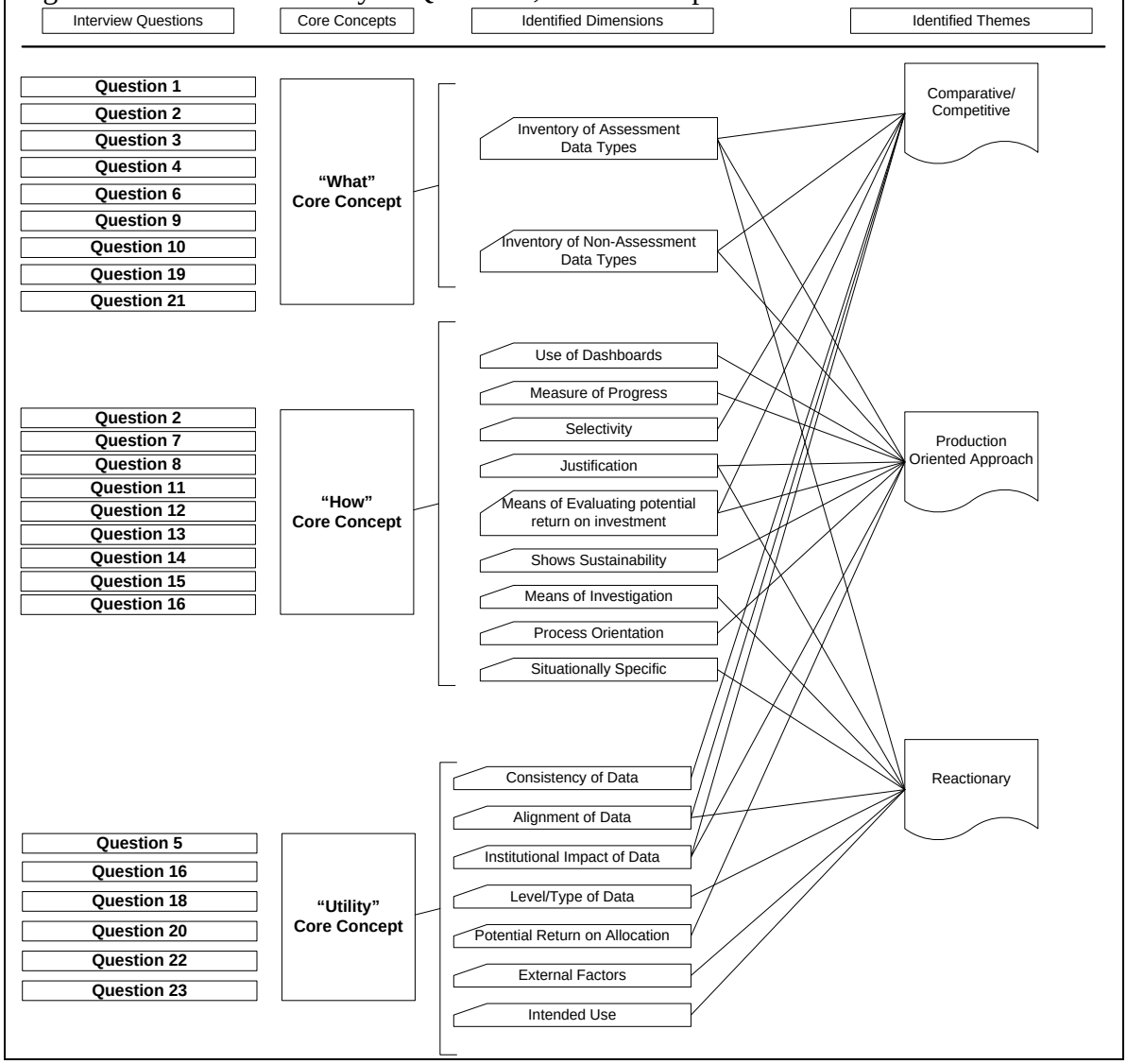


Table 4.11

Identified Themes and Summaries

Theme	Summary
Comparative/Competitive	Assessment data are utilized as a means of comparison to external standards and competitors in order to maintain institutional prominence and ability to recruit students
Production Oriented Approach	Assessment data has become a measure of outputs as the institution continues its transformation towards a production oriented approach to education
Reactionary	Assessment data utilization is more reactionary than proactive

Comparative/Competitive

The first theme that emerged from this study was the Comparative/Competitive theme. This theme describes an approach where universities are competitive, both internally and externally, through data-based comparisons. For example, participants identified within their responses some form of competitive focus in terms of the types of data collected. While components of this analysis included "looking for comparable data," the broader theme inherent in this appears to relate to an institution's drive to understand its relative value, output, and ability to attract students and faculty in relation to other peer and non-peer institutions.

For example, the research university's Chief Academic Officer identified data sets in the US News and World Report, the Times of London Study, and comparable external surveys as being important. This could suggest one or a combination of factors. The use of external surveys could be a matter of using predefined data sets to articulate what data the research university's Chief Academic Officer is interested in. The surveys mentioned are

prominent tools in marketing and can also be used in the recruitment of students. Given the budgetary constraints that the research institution has been placed under the past three years, there is the potential that use of external comparisons is a means of marketing the institution to potential students hoping to ensure a constant revenue stream. The use of external surveys could also suggest a degree of data literacy that limits professional recognition of assessment data to only those metrics that are published. Also, within this theme is the practice of benchmarking. Throughout the interviews, benchmarking did make an appearance in the responses, primarily in understanding goal attainment within the strategic planning management process. Benchmarking is an integrated component of closing the loop, as described by Banta (2011). However, the interviews revealed that benchmarking is a practice about making external comparisons rather than internal evaluation.

As will be discussed in the theme relating to production orientation, the larger context of responses across multiple categories indicated institutional Chief Academic Officers who participated in this study were looking for ways to distinguish their institutions in an attempt to attract students and faculty. Through this recruitment, the institutional Chief Academic Officers were working to ensure that sufficient revenue streams were developed and/or maintained to support ongoing institutional operations. Each of the institutional Chief Academic Officers presented data indicating this theme was present; however, the private university's Chief Academic Officer was the least concerned with the idea of this comparative-competitive theme. The research university's Chief Academic Officer had the strongest data to support this theme. The regional university's Chief Academic Officer made direct reference to her belief that they "had no peer institutions within their state" (Regional University CAO, interview, 2013).

Production Orientated Approach

The orientation of the subject group towards a production model approach was the second theme that emerged from the interviews. Admittedly, this theme may be a function of the 2007 economic downturn. The interview data suggested that Chief Academic Officers identified broader, institutional outcomes as assessment data. Furthermore, these broader institutional outcomes had the highest utility in decision making, especially when such data were representative of programs, degrees, colleges, or the institution as a whole. Overall, this theme described an approach where the focus was on outputs other than student learning. Such outputs are the "products" that higher education produces, such as faculty scholarship, degrees awarded, and enrollments.

Across all the types of data identified as being used by the Chief Academic Officers, student learning outcomes were mentioned only tangentially. Based on the interview data, the responsibility for the student learning outcomes was often delegated to the individual deans, chairs, and program coordinators. This suggests that at the level of upper administration, the focus on decision making as it relates to strategic planning, policy, and resource allocation, must be based on some other type(s) of data. The aggregated collection of interview data suggested that measures of productivity at the institutional level were of greatest importance to the Chief Academic Officers who participated in this research study. Issues such as faculty research, recovery of overhead on grants, student enrollment, time to graduation, and other major issues that impact the "bottom line" were examples of the data referenced with relatively high frequency during the interviews.

Further examination of the data from the participants, and from the literature review, strongly indicated that the framing of a production mindset within the academy is not new.

Colleges and universities have been producing graduates for hundreds of years. In the earliest times of American higher education, the production unit was a grounded and godly student, who was ready for Harvard College. In mid to late twentieth century, the production units were students who were highly trained and ready to enter the workforce. What appears to be happening now is another shift in the definition of what higher education produces. What that definition will be is a function of time and further research.

Faculty focus. A sub-theme within the production-oriented-approach theme was faculty focus. The focus on faculty and faculty-related data was extensive, both in its frequency of occurrence during the interviews and in the breadth of topics that it covered. From within this sub-theme, faculty are viewed as a consumer-constituent and as a mode of production. Seeking faculty input on decisions regarding strategic planning was apparent; however, the selection of which faculty participated was not. As indicated by the research university's Chief Academic Officer, to be selected for inclusion in the strategic decision process, only those faculty that were classified as "mid-career" would be considered for participation in strategic planning.

Reactionary

The third theme that emerged from the interviews was the reactionary theme. The interview data supported the idea that institutional Chief Academic Officers were reactionary in their approach to decision making and in requesting and using assessment data. While strategic planning held a prominent place in the activities of the Chief Academic Officers, the individual strategic planning process differed widely among the subject group. As described by the private university's Chief Academic Officer, the initiation of a strategic planning

process was reactionary in that “the old plan had run its duration and it was time to do it again.”

The regional university’s Chief Academic Officer initiated a strategic planning process in response to a change in leadership. The research university’s Chief Academic Officer reported that he had developed a strategic plan because of historical practices.

The concept of resource allocation has a strong connection to the reactionary theme. In what might be a function of recent economic conditions, many of the administrative decisions regarding resource allocation have been driven by budget cuts. The state and regional universities were especially cognizant of this, with the regional university’s Chief Academic Officer going so far as to indicate that her institution’s cuts were not planned or strategic; they just performed a type of “field triage” in order to keep the university financially solvent.

It was during the discussions about resource allocation that we saw the emergence of evidence indicating that, when it comes to resource allocation decisions, data are needed and used at many stages of the decision-making process. The data with the highest usage and the greatest utility, are data that show a resource investments will produce the “greatest return on investment” (Private University CAO, interview, 2013).

From a policy perspective, the Chief Academic Officers indicated policy-related decisions tended to be in response to some process. In terms of past events, such as sexual harassment, or in how to address conflicts with social change (gay marriage) and institutional beliefs, policies are revised in reaction to, not in anticipation of, events.

Chapter Four Summary

Chapter 4 presented the findings of the interviews conducted for this study. Part one presented the demographic and institutional descriptions of the three Chief Academic Officers who consented to participate in this study. Part two was a review of the findings related to the interview protocol developed for this study. Part three examined the findings of the interviews through one of the major units of analysis: the question groupings. The 23 protocol questions were organized into five question groups. The findings of each of the question groups were then presented. In part four of this chapter, the findings of the interviews by the other major unit of analysis, the core concepts, were offered. The three core concepts were the what," how, and utility concepts. Across all three core concepts, eighteen dimensions were identified. Originating with the responses to the original protocol questions, organized by core concept and then by dimensions, a graphical taxonomy of the three identified themes was presented at the beginning of part five. Following that taxonomy, the identified and refined themes are named and discussed. These themes are the production-oriented-approach theme, the reactionary theme, and the comparative/competitive theme. In the next and final chapter of this study, the findings are discussed in the context of the original research questions and in the context of the NILOA call-to-action. Recommendations for future research will be identified and articulated.

CHAPTER FIVE

DISCUSSION AND RECOMMENDATIONS FOR FUTURE RESEARCH

Introduction

This research examined a literature-based disconnect between assessment data and its utilization in decision making regarding matters of policy, strategic planning, and resource allocation. As discussed in previous chapters, there was a need to determine who in higher education was using assessment data and how. Specifically, this study focused on how Chief Academic Officers at a regional, a research, and a private institution use assessment data in their decision making. As the literature showed, Chief Academic Officers are in positions that hold immense influence over strategic planning, resource allocation, and matters of policy. Previous findings identified that assessment data had little to no influence on strategic planning, resource allocation, and matters of policy (Kuh, 2009). Furthermore, these issues also have a major influence on the operations of an institution of higher education.

As a continuation of the findings presented in Chapter four, this chapter begins by using the identified themes to address the three research questions of this study:

1. How does a Chief Academic Officer utilize assessment data in making decisions regarding strategic planning, resource allocation, and policy creation?
2. What other types of data are used in decision making as it relates to strategic planning, resource allocation, and policy creation?
3. What influences the utility of assessment data in relation to strategic planning, resource allocation, and policy creation?

Additionally, Chapter five addresses the original call-to-action that served as a catalyst for this research. The term catalyst is used with intention as this research was designed as an exploratory study. Finally, Chapter five makes three recommendations that serve as a call-to-action for future research examining how assessment data are used by other executive leaders in higher education.

Addressing the Research Questions

Question 1. How does a Chief Academic Officer utilize assessment data in making decisions regarding strategic planning, resource allocation, and policy creation?

A Research University Chief Academic Officer perspective. When all types of assessment data, as discussed in Chapter one, are considered; the research university's Chief Academic Officer used assessment data in a largely reactionary sense. The Chief Academic Officer has a multitude of complex and competing demands. Strategically, these demands must be easily translatable into actions, and those corresponding actions were driven by a complex network of committees, constituent groups, and stakeholders.

How assessment data are used in relation to strategic planning, is largely a function of the institutional strategic plan. Assessment data that are associated with institutional goals/objectives within the strategic plan are utilized. Assessment data that cannot be tied to a strategic objective is not used. Ultimately, assessment data are used by the Research University CAO, depending on the objective being measured. With regard to strategic planning, assessment data are grouped into larger institutional metrics. These metrics are then used to form comparative models of institutional effectiveness and outputs. These comparative models are shared and refined among a network of advisors and assistants who

provide input and suggestions that are taken under advisement by the Chief Academic Officer.

From a resource allocation perspective, the use of assessment data is more pro-active. Here, the research university's Chief Academic Officer focused on balancing the competing needs and demands of the institution as a whole with the limitations of economic reality. The practice of identifying institutional productivity metrics as assessment data supports the production orientation theme. Furthermore, institutional productivity metrics and how those metrics can be maximized demonstrates in-part how resource allocation decisions are made. This was accomplished by working to tie the demands for resources to the greatest potential return for the institution in a variety of ways such as new hires, facilities improvements, and programs that would increase enrollment. The identification of assessment data by the Chief Academic Officer can and did shift depending on a variety of internal and external factors. Regardless of the factors involved, there was a clear focus on the productivity of the institution. Faculty appeared to be viewed as a means of production, although in a very scholarly manner.

Policies were approved either in form and/or in function by the research university's Chief Academic Officer, apparently in response to past events. These policies were either immediately approved for implementation by the Chief Academic Officer, or policy recommendations were approved and forwarded to larger approving bodies, depending on the nature of the policy, the legal ramifications, and standing institutional practice

A Regional University Chief Academic Officer perspective. The regional university's Chief Academic Officer has many of the same challenges facing her research university counterpart, and also used assessment data in much the same way as the research

university CAO. In many instances however, the regional university's Chief Academic Officer focused less on institutional research productivity and more on the preparedness of graduates. This was evidenced by a stated need for longitudinal assessment data from employers and graduates about the level of alumni preparedness when entering the workforce. "If we need something invented, I always go to your engineering graduates rather than the [LOCAL RESEARCH UNIVERSITY] because your folks are more creative (Regional University CAO, interview, 2013).

With a smaller research focus, the regional university was in many ways at an economic disadvantage. Without the resulting revenue that is generated from extramural research, the regional university's Chief Academic Officer must make even greater efforts to maximize revenues from other sources. As a result, data used in resource allocation decisions tended to focus on strategic investments as opposed to meeting multiple demands. Programs identified as a strategic initiative received rapid funding. This process suggested a closely-knit organizational structure between the Chief Academic Officer and her subordinates.

Policies were addressed through an executive model, with institutional practices and legal issues determining which policies are put into effect immediately, and which policies filter through faculty and staff committees. Strategic planning was informed by the data collected as a part of the strategic planning process. While the collection of data can be extensive, that data may not necessarily drive the decisions. Rather, data play a supporting role in the nexus of decisions that occurred on a daily basis for the regional Chief Academic Officer.

A Private University Chief Academic Officer perspective. The private university's Chief Academic Officer had a different approach to how data are used. With a different economic funding model than her research or regional institutional counterparts, the Chief Academic Officer in this instance is able to look at strategic planning decisions through a different lens. Coupled with a well-defined and articulated strategic plan, the data collected are used to evaluate if progress is being made within the guidelines of that plan. In addition, the measures themselves are evaluated to ensure that the data collected are meaningful. A degree of complexity was added from the integrative nature of faith-based issues surrounding the private university's curriculum. Such issues are difficult to measure as a student learning outcome and prohibitively challenging to evaluate holistically.

> We have lots of conversations initially about how do we measure things like integrating faith and learning. And we made decisions to say well, it looks like the best way to maybe measure integrating faith and learning is things like faculty publications in Christian journals or faculty asked to present on Christian panels or something. But there is some times when we trip up on things like how do we if we are trying to increase the capacity of students and faculty to integrate faith and learning inside and outside the classroom, which is one of our objectives; how do we measure that? (Private University CAO, interview, 2013)

While the private university's Chief Academic Officer operated with a funding model that was somewhat insulated from the economic downturn that has impacted her research and regional counterparts, this insulation is not absolute. There must still be considerable and constant attention given to ensuring that students are in "the pipeline" and remain so, as a

function of the university, as well as to ensure the short and long-term economic survival of the institution.

Policies were addressed from an executive standpoint, with an advisory group comprised of subordinates and supervisors. Such advisory groups assist in reviewing the collected data and providing guidance on policy changes. The breadth of advisory groups available to the private institution Chief Academic Officer also extends to larger, external governing bodies, such as a congregation of faith-based leaders. Among all these groups, assessment data are assembled into institutional metrics and reviewed as a part of the policy process. This policy process also tends to be reactionary in nature, and usually focuses on ways to ensure that the institution is able to continue delivering its product.

Question 2. What other types of data are used in decision making as it relates to strategic planning, resource allocation, and policy creation?

One major finding from this study was that each Chief Academic Officer defined assessment data differently. As discussed in Chapter one, assessment data includes information collected during the assessment process. In higher education, this information focuses primarily on student learning outcomes. However, the CAOs who participated in this study each had a different focus on what they considered to be assessment data. This in turn led to broad categorization of the other types of data they used in decision making.

A research university Chief Academic Officer's perspective. Like the regional and private university Chief Academic Officers, the research university's Chief Academic Officer utilized a variety of data when making decisions. These data tend to quantifiable, not necessarily student centric, and relate back to the mission and strategic vision of the university. The focus on maximizing the utility of those resources in a basic return on

investment approach largely determines what other types of data were used when making decisions. At the Chief Academic Officer level, all data are consolidated into a larger collection of metrics; usually no lower than the program level.

From a strategic planning perspective, the data that informs the process is the core data about the university mission, goals, and objectives. Using data as a measure of progress, the research university's Chief Academic Officer looked for data that can support measuring institutional progress in achieving strategic objectives. Sub-goals were also developed, upon which programs and program data were reviewed and aligned to resources and objectives. However, much of that work occurred at the level of deans and department chairs. Interview data showed that the research university's Chief Academic Officer placed a low value on strategic planning overall. "I don't know that everybody should be thinking strategically all the time…" (Research University CAO, interview, 2013).

Data that informs policy decisions is comprised of information related to issues and events. Data from those events and issues represents actions that have already occurred. This reactionary approach is seen when data triggers a review and/or creation of policies in response to those issues and events. This reactionary approach is not uncommon across all three university types, but there was special emphasis placed by the research university's Chief Academic Officer on legal liability. The daily scope of activities that occurs at a research university puts heavy focus on protecting the institution from a liability standpoint by responding to issues as they arise.

A private university Chief Academic Officer's perspective. The private university's Chief Academic Officer collected data directly related to the strategic plan. The data relating to strategic planning were used in two ways. First, all data collected were

highly specific and representative to the institutional strategic plan. Within the strategic planning process, the identification of relevant data was done before the plan was put into action. The second use of data in strategic planning involved the review of the data itself. Data relating to the strategic plan were reviewed to ensure that utility of the data overall did in fact serve as a measure of progress. If during a review of the data, a particular metric was not indicative of its related strategic objective, then new data sets were identified. Only the private university's Chief Academic Officer indicated taking this approach.

The data related to resource allocation consisted of information that indicated a potential return. Information was provided to the Chief Academic Officer by subordinates, who were asking for resources. Such requests had to be accompanied by a justification, usually related to one of two factors.

The first factor related to the external market. If a resource allocation decision resulted in funding for a new program or faculty, then the justification usually included some data to support the request.

> What is the data, what is the market data that you have, dean, to help me understand that this is going to work? How many students are we going to get? What have you done to go out and check the market? Because if we can generate new revenue that is another good argument for me for a faculty line (Private University CAO, interview, 2013).

The second factor in what data are used in resource allocation decisions focuses on internal needs and issues. The private university's Chief Academic Officer used internal data relating to institutional operations to ensure that resources were allocated based on need. The focus was on ensuring that the primary functions of the institution could continue. Data

included actual needs of students and faculty in areas such as teaching, faculty development, and enrollment-related issues. Again, data that were used for resource allocation purposes were also related to the overall institutional strategic plan.

> We have a high enrollment right now in sciences. And so we have, with a new science building opening, we have increased enrollment in biology and chemistry… because we have more lab sections, they are going to make an argument for we need more supplies, we need more resources to be able to service these students (Private University CAO, interview, 2013).
>
> The other area that probably I am always looking at is what do we need in terms of faculty development. So I mean faculty lines, departmental lines, and then what kind of–what additional funding do we need for faculty development, faculty programming. And I go back to strategic plan and say well, what is our plan?" (Private University CAO, interview, 2013)

Data used in policy matters were also reactionary at the private university. In addition to developing policies that were in support of the production-oriented approach, the private university also utilized data that addressed social issues and adverse events. Overall, the private university's Chief Academic Officer sought out data that could inform policy revision or creation.

> One policy that we struggle with right now is gay marriages. It has been approved so … what is our policy there and what data do we look at to help us make good decisions." (Private University CAO, interview, 2013)

A regional university Chief Academic Officer's perspective. At the regional university, the resource allocation process and the strategic planning process were cross-

integrated. External comparative data and institutional productivity data were identified as having been used in strategic planning and resource allocation decisions. However, recent economic conditions have made planning and resource allocation more about triage and survival.

> I would say in the level of cuts that [OUR UNIVERSITY] took over three years, in the past three years there really was not much planning and so forth. People; we just cut wherever we could … there really was not an opportunity to look much beyond where the possibilities were and so forth (Regional University CAO, interview, 2013).

The regional university's Chief Academic Officer also focused on student satisfaction data and data that illustrates the preparedness of the graduates. As a primarily undergraduate degree granting institution, data on undergraduate student issues such as time to graduation, diversity, and access to classes were also identified as important in the strategic planning and resource allocation process. Data were again aggregated at the department or college level. However, direct measures of student learning were not a primary data source.

> We really don't use assessment data either; well I shouldn't say that. The direct measures of student learning, if they're part of the process, which I don't know if they are, is happening at the department and college level. Because I do not see that level [of] assessment reporting…So I would rely on the departments [and] the deans to incorporate those in their planning (Regional University CAO, interview, 2013).

Data on the progress and post-graduation success of graduates were identified as the regional university works to serve a "unique group." Having been self-identified by the regional university's Chief Academic Officer as unique and stating that there are "no other

institutions like it" (Regional University CAO, interview, 2013), the regional university collected data that spoke to its overall mission to serve the citizens of the state. This included developing a productive, well-educated group of graduates.

The regional institution had established practices in place for policy matters. Data were presented within the process as a part of the established process. "People might come to me and say 'We think we need a new policy' and I would say, 'Yeah that's a good idea; why don't you start the'–and we have this policy development process" (Regional University CAO, interview, 2013).

Additional data relating to policies were driven by external accreditors, as was articulated by the regional university's Chief Academic Officer.

> Accreditors are pretty clear about their expectations surrounding the assessment. I would say that the process of assessment dictates that, in other words we're more likely to have a policy that says we need a process for assessment rather than those people that have good assessment results will have to do one thing or the other.

Question 3. What influences the utility of assessment data in relation to strategic planning, resource allocation, and policy creation?

The utility of assessment data in relation to strategic planning, resource allocation, and policy decisions can be consolidated for all three university types, as the similarities among all three institutions have significant cross-over. The overarching factors influencing the utility of assessment data are institutional specificity, situational fit, and overarching goal and purpose.

Institutional specificity. The unique operations, mission, and goals of each institution determine the overall composition of assessment data that are used in strategic

planning, resource allocation, and matters of policy. From the interview data, the level of specificity of the assessment data used varied slightly across organizational mission and focus, composition, scope, and legal structures by which the institution operates. Simply put, the utility of assessment data is a function of the organizational structure and institutional mission.

In the case of the private institution CAO, the strategic plan serves as a major force in what assessment data are collected and used in decision making. The focus of the institution is aligned to the strategic plan, and therefore, the assessment data that are used must relate to the key performance indicators listed in the strategic plan.

In the case of the regional university CAO, the external comparative theme can be used to see how the focus of the institution is in recruiting and preparing students more effectively than other competing institutions. The assessment data that have the highest utility for the regional university's Chief Academic Officer in this case is found when that assessment data can be used with external comparisons to understand and demonstrate what the institution is doing well and where they need to improve.

The research university's Chief Academic Officer placed a high value on assessment data that showed institutional productivity. The production-orientation theme could be seen in the use of data that measured highly quantifiable metrics and products that the institution generates. For example, research grants, ranking of programs, total graduates, and so forth are all metrics with a relatively high utility.

Situational fit. The second factor that influenced the utility of data related to the specific situation where a decision was needed. The overall utility of data is dependent upon the individual situation. For example, all three institutions indicated during the interviews

that assessment data demonstrating a return on investment had a greater potential to influence decision making than would individual student learning outcomes. However, that assessment data would be necessary for situations regarding a resource allocation decision. The reactionary theme can be seen in decisions regarding matters of policy. When a policy decision is needed, the assessment data that will have the highest utility will be information related to situation at hand and the circumstances that have already occurred. An example of this can be seen in the sexual harassment example from the research university's Chief Academic Officer. Here, CAO defined assessment data relating to the specific event, and also non-assessment data about existing policies, will have a higher utility than data relating to enrollment.

The use and function of assessment data in relation to the situational fit concept is also a key component in addressing the third research question. By examining the utility of assessment data, the larger functional framework of DDDM, in relation to assessment data, begins to emerge. As discussed in Chapter two, the relatively new management theory of DDDM postulates that data should be used to evaluate what could be accomplished. Furthermore, DDDM can include, regardless of an individuals' definition, a variety of assessment data that must be shaped and constructed into a larger management framework. The interview data suggested that the larger management framework used by Chief Academic Officers is highly reactionary, production oriented, and situationally specific. Furthermore, the utility of assessment data when aggregated into larger organizational units is higher than data from at smaller, or lower organizational units. The overall utility of the data that a Chief Academic Officer uses must be focused to the issue at hand to ensure only relevant factors influence the individual Chief Academic Officer's decision-making process.

Goal and purpose. The third factor influencing the utility of assessment data is goal and purpose. The interviews showed that assessment data identification and use were specific and must fit the decision at hand. For example, some assessment data were presented as a means of justification. Other informational sets were used to measure progress. Still other types of assessment data were used to evaluate issues and shape policy revisions. Regardless of the nature of the data itself, the utility of that assessment data must fit some goal and purpose.

> I don't have good data so I don't use it. I do consider a lot when we have accreditation, specialized accreditation, because I do get useful information there, but I don't get useful information in the other (Regional University CAO, interview, 2013). Also:
>
> If you are paying attention to the data you are going to make policy and then you are going to be continuing to monitor the data and if you realize that the data are not the results that you were hoping for you are probably going to go back. You should go back and make some policy changes (Private University CAO, interview, 2013).

Overall, the utility of the assessment data used by the CAOs in this study is directly related to the level of their position. Each Chief Academic Officer focused on institutional level decisions, and accordingly, broad-based institutional data had the overall highest utility. To further address the overall concept of assessment data utility, a review of the NILOA findings is necessary, particularly the call-to-action that served as a catalyst for this research. That call-to-action sought new research to help understand who is using assessment data and for what purpose.

Addressing the NILOA Call-to-Action

As described at the end of the last section, the literature-based call-to-action that, in part, helped to frame this study, recommended that new research be initiated to understand who was using assessment data and for what purpose (Kuh et al., 2009). To address the first part of that call-to-action, the focus of this study was directed towards the Chief Academic Officer. As discussed in Chapter2, this position was selected as it has considerable influence on strategic planning, resource allocation, and matters of policy. The NILOA Study further found that those three issues were minimally influenced by assessment data.

Throughout the interviews, all interviewed Chief Academic Officers were allowed to self-identify what types of information comprised assessment data. As presented in Chapter 4, the types of data identified by the Chief Academic Officers in this study encompassed a large set of data points. The NILOA survey only asked participants to evaluate the use of student learning outcomes on a host of executive and operational decisions. The interview data indicated many of the factors that influence Chief Academic Officers are related to issues beyond student learning. The NILOA Study recognized this. "Outcomes assessment is extensive, but considerably less than is needed" (Kuh et al., 2009, p. 4).

The interview data indicated that multiple individuals in higher education use data to make decisions. The Chief Academic Officers in this study reported serving on a variety of committees. These committees and their respective members all used data to accomplish that committee's intended purpose. As executive decision makers, the Chief Academic Officers interviewed used data to inform, justify, and defend their decisions.

Through the theoretical lens of constructivism and by applying a DDDM model, we find that the selection and utility of data is dependent upon the individual, the situation, the

circumstances, and the individual definition of that particular piece of data. In this study, participants reported that data were used when there was a relationship between the circumstances and the data. The utility of the data depends on the institutional needs, the situation, and the goal and purpose of the data.

The NILOA Study found that assessment data had a weak influence over issues pertaining to strategic planning, resource allocation, and matters of policy. From this study, one hypothesis that has emerged is that the definition of what "assessment data" are needs further research and definition. By excluding operational and organizational data from the definition of what assessment data are, the NILOA Study eliminated the possibility that other data could influence decision makers. The identified production-oriented-approach theme suggested that other factors beyond student learning outcomes do have a strong influence on higher education Chief Academic Officers. The reactionary theme further suggested that in matters of policy, data relating to adverse or external events had a significant influence on Chief Academic Officers. The comparative/competitive theme indicated that the institutional focus on competition for students and faculty through external comparisons can use data that includes measures of student learning and institutional prominence.

A second hypothesis that emerged was that Chief Academic Officers do not make decisions in a vacuum. Higher education governance structures indicated that DDDM can be applied to various levels of decision makers. As described by Brown (2000), the collective of competing demands, agendas, and activities suggest that replication of this study, with other levels of higher education administrators, would yield a greater understanding into how higher education functions in the modern era.

Finally, the third hypothesis that emerged from this study is that the alignment of data is relative to the overall level of organizational responsibility. The NILOA call-to-action focused on future research that would more deeply explore who was using data and for what purpose. One of the findings of this exploratory study with three Chief Academic Officers was the shared focus on institutional-level data when making decisions related to strategic planning, resource allocation, and matters of policy. There is the possibility that a decision maker at the dean, chair, or perhaps even the program coordinator level, might report a higher utility with different levels and/or types of assessment data. The findings further indicate that there is considerable variation among the CAOs who participated in this study on what types of data constitute assessment data. In light of those findings, this study offers three recommendations for future research by assessment professionals and scholars.

Recommendation 1 - Redefine and Clarify the Term "Assessment Data"

The first recommendation resulting from this study focuses on the need to more clearly define what assessment data, as a noun, really means. Throughout the literature, and from the interview data, it has been found that even individuals at the highest levels of higher education have differing views as to what assessment data, the noun, really means. Following decades of change within higher education, assessment has become a broad category used to describe both traditional measures of student learning and other, non-student related information.

As discussed in Chapter two, the literature pertaining to higher education assessment addresses both student learning and other measures. Research on the use of assessment data in higher education, and the findings of this study, also show that current practices in higher education are commingling these types of data under the term of assessment. However,

studies such as the NILOA, the NCPI, and others are looking exclusively at the integration of student learning assessment data into higher education decision making. Models of decision making, such as DDDM, require that the data be clearly defined. Failure to define the data can result in a failure to fully integrate DDDM into the organizational and operational practices of an organization.

According to Suskie (2008), assessment data can be found at four levels: student, course, program, and institution. The very notion of assessment beyond the individual student transitions into what many would call more evaluative work. Clearly articulating through additional research what defines assessment in this new context will provide a crucial link in understanding how assessment data can be utilized in a DDDM model.

Historically, the term assessment has described one type of data. Today, the redefinition of the term assessment is needed to more accurately integrate data into decision making. Furthermore, the clarification of what assessment data are would provide Chief Academic Officers with a more concise understanding of what data are available for decision making. Previous studies on assessment have found that overall, assessment as a practice is valued, but the data resulting from assessment is not valued. By redefining what assessment data are, the overall value and utility of assessment data would logically increase. This process would also suggest that assessment practices could move away from being driven mostly be external forces. The interview data in this study suggested that Chief Academic Officers are using data in their decision making. The disconnect is not in the use of the data, but rather in the definition of what assessment data includes.

Recommendation 2 - Develop a New Model for Assessment Data Utilization

How assessment data are used, and the utility of that data, has been found to be a function of the institution, the goals and purpose of the data, and the fit of the data to the specific situation. When examining the fit of the assessment data, there is also the potential that assessment data could be aligned, based on the responsibilities of a particular end user. For example, the Chief Academic Officers in this study reported using assessment data that were more institutionally representative. Smaller organizational units of assessment data, such as course outcomes, and individual student outcomes, were reported as having a low to non-existent utility.

Previous research has found that accreditation is a major driver of assessment activities. Currently, all institutions of higher education within the United States that receive any type of federal aid are required under the Higher Education Opportunity Act to be accredited as a condition of eligibility to receive those funds. Incorporated into these accreditations are standards where institutions are expected to demonstrate efforts to improve student learning, increase efficiency, improve access, and enhance outcomes. Legislators who allocate tax dollars to fund higher education's operations are increasingly demanding that institutions work to address the needs of society through research and scholarship.

To provide evidence of these efforts, higher education has developed several offices of institutional research and assessment. These offices generate and present all manner of data sets to executive leaders within higher education for use not only in accreditation efforts, but also in matters such as strategic planning resource allocation, and matters of policy. In current times, this information can be made available to virtually everyone. The findings of this study suggest that may not be the most ideal or efficient approach. If, as seen in Chapter

four, Chief Academic Officers are most interested in assessment data at the institutional level, then it is logical that other levels of decision makers, such as presidents, deans, and department chairs, may be interested in other levels of assessment data as well. By redefining what assessment data are and structuring data availability and usage expectations to the appropriate levels, higher education will have a clear set of policies that demonstrate DDDM to accreditors. This new overall data utilization model could also provide multiple leaders within higher education with the resources necessary to fully adopt DDDM into their own professional practices.

Future assessment data utilization models could be stratified across the operational levels of the academy to ensure that assessment data are presented to individuals who have an organizational fit to that data. Functionally, this new model of information alignment and utilization could be constructed on Suskie's (2009) work by aligning the types of data to the levels of individuals within the leadership hierarchy structure. An example of such alignment is illustrated in Table 5.1.

Table 5.1

Example Alignment of Data to Organizational Hierarchy

Suskie Levels	*Types of Data*	**Organizational Hierarchy**
Institutional	*Scholastic Productivity* *External Reviews/Accreditation Reports* *Enrollment Numbers* *Progress towards Strategic Goals*	**President/Provost**
Program	*Time to Graduation* *Diversity* *External Demand* *Completion Rates* *Placement of Graduates*	**Dean/Director**
Course	*Enrollment Numbers* *Class Size* *Wait-lists*	**Department Chair**
Student	*Coursework, Grades* *Student Learning Objectives*	**Instructor**

Student Level Data to Instructor. Learning outcomes are defined in accordance with institutional goals and objectives. These outcomes would be both quantitative and qualitative, with sampling and broad-based collection and analysis procedures in place to ensure that students are learning and not just meeting testing and/or reporting standards. The instructor would receive results of those outcomes for use in the refinement of pedagogical approaches to their individual classrooms.

Course Level Data to Chair. Courses and course-related data become a primary unit of grouping. Course instructors and coordinators would have the opportunity and responsibility to review their goals and objectives on an annual basis, as well as their relation and contribution to institutional goals and objectives. Assessment data at this level would focus on how well the course is progressing in delivering content to students. Effectiveness

of the availability of courses and their overall enrollment could also be useful to those who have to develop, plan, and refine courses.

Program to Dean. This level of data utilizes the production-oriented theme to evaluate overall progress in the next level of groupings. Multiple programs and courses all require resources. At this level, the dean operates as a high level manager to ensure that all programs are meeting their individual objectives. The dean level also serves as the point where resource allocation decisions are made for related groups such as degree programs within a college. This allocation process could include a negotiation between administrators and faculty, with input from staff, as to what can and cannot be accomplished without diluting the outcomes desired by all groups. Strategic plans at this level are replaced with operational documents where the core and ancillary functions are quantified for evaluation and reporting to external stakeholders. Data are also qualitatively evaluated to ensure non-quantifiable metrics receive as much emphasis and weight as their quantifiable counterparts.

Institutional to President/Chief Academic Officer. Data at this level aligns to broad-based institutional metrics that demonstrate progression towards strategic objectives. The comparison/competitive theme suggests that external comparative data has great utility at this level. The overall allocation of resources and policy at this level requires broad-based data that encompass and summarize the lower levels for executive use and integration into decision making.

Recommendation 3 - Examine Other Levels of Leadership

The NILOA call-to-action was to find out who, if anybody, was using assessment data, and for what purpose. This study focused on Chief Academic Officers, given the functions of the Chief Academic Officer as described in the literature. Replication of this

study with other levels of higher education administrators would provide additional insights into how data aligns to the individual using it.

In addition to exploring the NILOA question from a qualitative perspective, the practical significance of this study was to develop an interview protocol that could be used across the various levels of the organizational hierarchy of higher education. Presidents, deans, and department chairs could all be interviewed using this protocol, and additional insight may be gained as to what types of data are useful and at what level. There are considerable challenges to this recommendation, as this study had a less-than seven-percent success rate in securing an interview with high ranking academic leaders. Based on the participation rate for this study, it is hypothesized that higher level positions within the academy, such as university presidents, would have an even lower participation rate. Conversely, this participation hypothesis would suggest that positions subordinate to the Chief Academic Officer, such as a dean or department chair, would have a higher participation rate. As a result of this hypothesis, future researchers are encouraged to plan accordingly and not attempt to interview different types of decision makers at the same time.

Summary

This study was an exploratory study focusing on Chief Academic Officers and their use of assessment data in strategic planning, resource allocation, and matters of policy. Previous research had found that there was a need to investigate the use of assessment data in higher education. The three areas mentioned had been found in previous studies to be minimally impacted by assessment data. The literature further showed that the accountability movement is placing increasing demands upon higher education to demonstrate efficiencies and impact.

As a result of the literature-based need to understand how assessment data was being used, this study developed a new interview protocol. That protocol was used to explore with Chief Academic Officers what data are used, how that data are used, and the utility of data in decision making regarding strategic planning, resource allocation, and policy matters. The research participants of this study were Chief Academic Officers at a regional, a research, and a private university. This job classification was selected because the literature showed that Chief Academic Officers have a significant impact on strategic planning, resource allocation, and policy. Participants were interviewed using a 23-question interview protocol organized into five question groups: (1) introductory, (2) assessment data utilization and strategic planning, (3) assessment data utilization and resource allocation, (4) assessment data utilization and matters of policy, and (5) a decision-making walkthrough.

The question groups were focused on three core concepts: (1) what data are used, (2) how data are used, and (3) the utility of the data. These three core concepts were aligned to the main research questions of this study.

1. How does a Chief Academic Officer utilize assessment data in making decisions regarding strategic planning, resource allocation, and policy creation?
2. What other types of data are used in decision making as it relates to strategic planning, resource allocation, and policy creation?
3. What influences the utility of assessment data in relation to strategic planning, resource allocation, and policy creation?

Following an extensive recruitment process, three Chief Academic Officers agreed to participate in this study. Constructivist Grounded Theory served as the theoretical framework from which an exploratory thematic analysis of the interview data was conducted.

The findings from the interview data show that the interview protocol was successful in generating a focused conversation with the Chief Academic Officers about their use of assessment data in decision making regarding strategic planning, resource allocation, and matters of policy.

The interview data was analyzed using two major units of analysis: the question groupings and the core concepts. The analysis and findings show that assessment data, as defined by the Chief Academic Officers, include both student learning outcomes, and more prominently, institutional measures of productivity, effectiveness, and comparisons. How data are used is a function of the institutional focus, organizational structure, the situation at hand, the available data, and the intended purpose of the data.

Further analysis of the data identified eighteen dimensions relating to the three core concepts. These dimensions are: (1) inventory of assessment data types, (2) inventory of non-assessment data types, (3) use of dashboards, (4) measure of progress, (5) selectivity, (6) justification, (7) means of evaluating potential return on investment, (8) show of sustainability, (9) means of investigation, (10) process orientation, (11) situationally specific, (12) consistency of data, (13) alignment of data, (14) institutional impact of data, (15) level and type of data, (16) potential return on allocation, (17) external factors, and (18) intended use. These eighteen dimensions were further aligned to the three identified themes from the data:

- The Comparative/Competitive Theme
- The Production–Oriented-Approach Theme
- The Reactionary Theme

The first theme identifies assessment data are defined and utilized as a means of comparison to external standards and competitors in order to maintain institutional prominence and viability. The production-oriented theme illustrates how Chief Academic Officers used assessment data as a measure of outputs in their evaluation and maximization of the various institutional products produced. The final theme, labeled reactionary, highlights that much of the decisions using assessment data are reactionary in nature as opposed to the proactive approach suggested as a best practice in the literature.

Using these themes, the three original research questions of this study were addressed. When examining how a Chief Academic Officer uses assessment data in decision making regarding strategic planning, resource allocation and policy creation, the data from this study show that the complexities of Chief Academic Officer decisions require data to be grouped into larger, aggregated metrics. When discussing the second question on what data Chief Academic Officers use when making decisions, this study found that there is a considerable intermingling of several types of data under the term "assessment." Chief Academic Officers in this study most readily identified with data that demonstrates institutional-level effectiveness and competitiveness. This study also found that, among the participants, lower level data, such as individual student learning and course outcomes, have a weak identification with the term assessment. The final question about the influences of utility of data in relation to the three key decisions found that institutional specificity, situational fit, and goals and purpose are all influencing factors.

The original call-to-action for this study was to identify who was using assessment data and for what purpose. This study found that the Chief Academic Officers who were interviewed are using data that they consider to be assessment data to make decisions.

However, how assessment data is defined depends upon the individual, the circumstances, and the context. Furthermore, the use of assessment data, as defined by NILOA, does not fully capture or represent what this study has identified as assessment data. The findings of this research study further suggest that a contributing factor in the NILOA findings was this lack of a comprehensive definition of assessment the noun. Further analysis found that, among the participant Chief Academic Officers in this study, the utility of data is related to the end users position within the organizational hierarchy.

Three recommendation actions are presented in the last part of Chapter 5. Those recommendations emerged from the findings of this research study and include: (a) the need to redefine and clarify what data are included under the term assessment, (b) to develop a new model of data alignment based on the position of the end user, and (c) to replicate this study with other levels of higher education administrators.

As can be seen in this study and the literature from which it originated, higher education is an evolving and increasingly complex organization and force within American society. In any institution, the complexities of leadership and management are compounded by the ever-increasing availability of data, the external demands upon the institution, and the need to balance those two forces. The literature and this research study show that data are being utilized to inform decisions. However the term assessment data is now being applied to data and measures beyond traditional student learning outcomes. As a verb, assessment has become a broad term to describe both educational assessment activities and broader evaluative activities. Efforts to better identify and define assessment as a noun and assessment as a verb in modern higher education are needed. Additional research using the

interview protocol developed in this study can help to better understand the role and function of assessment data in higher education operations and in DDDM.

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APPENDIX A

INSTITUTIONAL RESEARCH BOARD APPROVAL

University of Idaho

October 18, 2012

Office of Research Assurances
Institutional Review Board
PO Box 443010
Moscow ID 83844-3010

Phone: 208-885-6162
Fax: 208-885-5752
irb@uidaho.edu

To: Burton, Damon
Cc: Campbell, Daniel

From: Traci Craig, PhD
Chair, University of Idaho Institutional Review Board
University Research Office
Moscow, ID 83844-3010

Title: 'Where Assessment and Data Based Decision Makikng Collide; Chief Academic Officers Perceptions of Assessment Data in Operational Decision Making'
Project: 12-326
Approved: 10/18/12
Expires: 10/17/13

On behalf of the Institutional Review Board at the University of Idaho, I am pleased to inform you that the protocol for the above-named research project is approved as offering no significant risk to human subjects.

This approval is valid for one year from the date of this memo. Should there be significant changes in the protocol for this project, it will be necessary for you to resubmit the protocol for review by the Committee.

Traci Craig

Traci Craig

University of Idaho

August 24, 2013

Office of Research Assurances
Institutional Review Board
875 Perimeter Drive, MS 3010
Moscow ID 83844-3010

Phone: 208-885-6162
Fax: 208-885-5752
irb@uidaho.edu

To: Burton, Damon

Cc: Campbell, Daniel

From: Traci Craig, PhD
Chair, University of Idaho Institutional Review Board
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Title: 'Where Assessment and Data Based Decision Making Collide; Chief Academic Officers Perceptions of Assessment Data in Operational Decision Making'

Project: 12-326
Approved: 10/18/13
Expires: 10/17/14

On behalf of the Institutional Review Board at the University of Idaho, I am pleased to inform you that the **first-year extension** of your proposal is approved as offering no significant risk to human subjects as no changes in protocol have been made on this project.

This extension of approval is valid until the date stated above at which time a second extension will need to be requested if you are still working on this project. If not, please advise the IRB committee when the project is completed.

Thank you for submitting your extension request.

Traci Craig

Traci Craig

APPENDIX B

INFORMED CONSENT

WHERE ASSESSMENT AND DATA BASDED DECISION MAKING COLLIDE;

CHIEF ACADEMIC OFFICERS PERCEPTIONS OF ASSESSMENT DATA IN OPERATIONAL DECISION MAKING.

The UNIVESITY OF IDAHO Institutional Review Board has approved this project

(12-326).

The purpose of today's conversation is to explore with you selected aspects of how assessment data impacts your decision making process as it relates to resource allocation, strategic planning, and setting of institutional policy. This is an open ended interview where we will explore these topics and you have the opportunity to share with me your perspectives, practices and experiences relating to these topics. I ask that you respond as fully and openly as you are comfortable with and able to.

The purpose of this study is two-fold. First, I am conducting a limited follow-up to a study conducted by the National Institute for Learning Outcomes Assessment which ended with a recommended action that future research should examine who is using what types of assessment data and for what purpose. The second purpose to this study is to try and understand the operational side of how assessment data is used to "Close the Loop." There are no "right or wrong" answers as I will be taking your responses and analyzing them with other participant's responses for themes, patterns and to discern what the current model for the use of this data may look like.

If at any time you are uncomfortable with the nature of the question, please feel free to not answer the question by simply telling me "I don't feel comfortable answering that". If for any reason you need to take a break, please let me know, I want this to be as comfortable for you as possible.

With your permission, I will be recording this interview for the purposes of transcription and analysis. Once I have transcribed our conversation from today, I will be sending you a copy of the transcription for review and approval prior to my analysis. You will have the opportunity to review, redact or modify your responses as you see fit. While I may address you by name, rank and or title today, you will not be directly identified in the analysis. You of course have the right to withdraw from this project at any time for any reason. If you

decide to withdraw, your responses will be discarded and not used for this, or any subsequent study. I am of course, available to you at any time to discuss any concerns you may have with your participation in this project, and your copy of this informed consent has the contact information for myself and my doctoral research advisor.

Recording Devices

If it is okay with you, I will be recording our conversation. The purpose of this is so that I can get all the details but at the same time be able to carry on an attentive conversation with you. I assure you that all your comments will remain confidential and you will have the opportunity to review your responses in written form before I begin my analysis. Once this project is completed, the digital copy of this interview will be destroyed.

Principal Investigator	Faculty Sponsor
Daniel Campbell, Ph.D. (cand.)	Damon Burton, Ph.D.
University of Idaho	University of Idaho
College of Education	College of Education
Moscow, ID 83844-3080	Moscow, ID 83844-3080
Ph. 208-885-5014	Ph. 208-885-2186

I have reviewed this consent form and understand and agree to its contents.

Participant Name _____ Date _____

Experimenter Name _____ Date _____

APPENDIX C

INTERVIEW TEMPLATE

INTRODUCTION

Q1: When I use the term "assessment data" what types of data come to mind? (Either that you currently use or would like to see)?

Q2: In thinking about assessment data, If you had a "dashboard" of data readily available for decision making, what types of data would you have on that dashboard? What would it look like and how often would you look at it?

Q3: Now in thinking about data in general, what types of data are you most interested in as Provost and why?

STRATEGIC PLANNING

Q4: What types of assessment data do you use, see, or ask for when you are leading the institution wide strategic planning process?

Q5: Why do you include that assessment data in the process?

Q6: What other types of data do you use in your strategic planning process?

Q7: Could you take me through the working process of how you use all of this data in your strategic planning process? Essentially, as Provost, how does data (assessment and non-assessment data) impact and or shape your decisions regarding strategic planning overall?

RESOURCE ALLOCATION

Q8: When developing and finalizing resource allocation (budget) plans, how does assessment data shape your decision making process and ultimately the final budget plans?

Q9: Is there a specific type of assessment data that impacts the budget process more than others?

Q10: What other data points/types of data do you consider when developing and finalizing the budget, and why?

Q(11-15): On a scale of **extensively, moderately, somewhat, or minimally**, please rate your usage of the following as they relate to resource allocation.

- Student Learning Outcomes _____
- Course Outcomes_____
- Program Outcomes_____
- Institutional Outcomes_____
- _____ _____
  (Other data listed)

Q16: Can you walk me through an example of how you used data to make an institution wide resource allocation decision (or recommendation)? Perhaps, in the context of recent budget cuts, what data (assessment or otherwise) drove the decisions to cut (or invest) budgets or programs?

POLICY

Q17: As Provost, at what level do you get involved with the development or revision of institution wide polices?

Q18: Do you believe that assessment data drives policy creation? Why or why not?

Q19: If you could see any type of assessment data in your work on institution wide policies, what assessment specific data would you like to see (and or do you currently use)?

Q20: Could you expand on why would you identified that data?

Q21: If you could or do see any other type of data as you are conducting your work on institution wide policies, what other data would you (or do you) look at?

Q22: Could you expand on why would you identified that data?

DECISION MAKING WALK THROUGH

Q23: How do you integrate data into the process? What key factors seem to be present in your decisions? In short, could you please take me through as generic an example as possible, your professional process on how you make a decision in your role as Provost?

APPENDIX D

INTERVIEW PROTOCOL

This first section is about helping you and I develop a shared platform for what the term "assessment data" is and will mean for our discussion today. To do this, I have a couple of brief guiding questions about what you consider "assessment" data to be and what types of assessment data you use in your professional practice. To begin…

Q: When I use the term "assessment data" what types of data come to mind? (either that you currently use or would like to see)?

If missing/not responded, ask them for specific follow-ups (what types of data do you see regarding) to each of the following:

- *Student learning outcomes*
- *Course outcomes*
- *Program outcomes*
- *Institutional outcomes*

Q: In thinking about assessment data, if you had a "dashboard" of data readily available for decision making, what types of data would you have on that dashboard? What would it look like and how often would you look at it?

Q: Now in thinking about data in general, what types of data are you most interested in as Provost and why?

This is great. Now that we have a common platform to work from, I would like to examine data usage in the context of strategic planning. The literature and professional practice have shown a number of changes in how the academy functions, causing many institutions to revisit their strategic plans and their strategic planning processes. Please consider your answers to these next few questions in the context of your strategic planning process as Provost.

Q: What types of assessment data do you use, see, or ask for when you are leading the institution wide strategic planning process?

Q: Why do you include that assessment data in the process?

Alternate question if answer is no assessment data: Can you expand a bit on why you don't use assessment data in your strategic planning process?

Q: What other types of data do you use in your strategic planning process?

Q: Could you take me through the working process of how you use all of this data in your strategic planning process? Essentially, as Provost, how does data (assessment and non-assessment data) impact and or shape your decisions regarding strategic planning overall?

Thank you, next I would like to transition our conversation towards resource allocation. Nationwide we have seen tremendous cuts to higher education. I would like to explore with you, your perspectives on the internal resource allocation process as Provost.

Q: When developing and finalizing resource allocation (budget) plans, how does assessment data shape your decision making process and ultimately the final budget plans?

Q: Is there a specific type of assessment data that impacts the budget process more than others?

Alternate question if first question is no: Can you expand on why (assessment data does not impact your decision making process)

Q: What other data points/types of data do you consider when developing and finalizing the budget, and why?

Q: On a scale of **extensively, moderately, somewhat, or minimally**, please rate your usage of the following as they relate to resource allocation.

- Student Learning Outcomes _____
- Course Outcomes_____
- Program Outcomes_____

- Institutional Outcomes_____
- _____ _____
  (Other data listed)
- _____ _____
  (Other data listed)
- _____ _____
  (Other data listed)

Q: Can you walk me through an example of how you used data to make an institution wide resource allocation decision (or recommendation)? Perhaps, in the context of recent budget cuts, what data (assessment or otherwise) drove the decisions to cut (or invest) budgets or programs?

Thank you. For this next to the last section, I want to bracket our discussion into the world of policy creation. With such dramatic changes in Higher Education over the past few years, I would like to explore the impact of assessment data on your as Provost in regards to policy creation and revision.

Q: As Provost, at what level do you get involved with the development or revision of institution wide polices?

Q: Do you believe that assessment data drives policy creation? Why or why not?

Q: If you could see any type of assessment data in your work on institution wide policies, what assessment specific data would you like to see (and or do you currently use)?

Q: Could you expand on why would you identified that data? *(Or if no answer, why not)*

Q: If you could or do see any other type of data as you are conducting your work on institution wide policies, what other data would you (or do you) look at?

Q: Could you expand on why would you identified that data? *(Or if no answer, why not)*

I appreciate your patience as we worked through these dimensions. As this study is qualitative in nature, and as a final question for this interview, I want to just have an open-ended discussion about how you, as Provost and the Chief Academic Officer make professional decisions. I am curious about the overall process that you employ. How do you integrate data into the process? What key factors seem to be present in your decisions? In short, could you please take me through as generic an example as possible, your professional process on how you make a decision in your role as Provost?

Thank you for sharing some of your day with me. I know your time is very tight, and your participation will help make this study a success.

- Would you like a debrief of this study and its origins?
    - Extensive work in the area of trying to understand how assessment data is used in Higher Education
    - The 2010 NILOA (National Institute for Learning Outcomes Assessment) did a nationwide inventory of Provost's to see how assessment data was being used
    - Major finding was that Assessment is supported, but unclear as to how utilization occurred
    - Call-to-action was to find out who was using this data and how
    - I bracketed this study against Strategic Planning, Resource Allocation and Policy because;
        - These were key areas within the NILOA study as having reported low utilization
        - They become key points in data driven decision making
        - They are found to be key themes in the literature regarding Higher Education Operations

- I will submit the transcripts to you for your approval (and corrections) prior to my analysis. Is there a specific email address that you would like them sent to?

- Finally, may I use that email to follow-up with you if an additional question may arise?

APPENDIX E

RESEARCH UNIVERSITY INTERVIEW TRANSCRIPT

Interviewer: It is November 20th. I'm here at [RESEARCH UNIVERSITY] with Provost [NAME REMOVED].

Interviewee: It's not the 21st, I'm sorry.

Interviewer: Oh, did I say the 21st, it's the 20th.

Interviewee: No, it's the 20th but I saw, I dated it the 21st.

Interviewer: That's okay. No one will mind. So you've read informed consent. You're okay with that.

Interviewee: Yes

Interviewer: Ready to go. Alright, so what we're going to do today is just go through a series of questions. It's a qualitative study. So there are no right, there are no wrong answers. As it said in the informed consent if you're not comfortable discussing it just say so. And that's okay; it won't harm the study at all. To begin with, I again want to thank you and I just want to start to develop the shared platform of how you and I when we're talking about assessment data what we're really talking about. So when I use the term assessment data, to you, what kind of data comes to mind or what kind of data would you like to see that's assessment related?

Interviewee: So you want me to say more to numbers.

Interviewer: That's okay.

Interviewee: Sort of like – yeah, I like quantitative data in terms of assessment it would relate. If we're talking about faculty it would probably relate to various measures of scholastic productivity and/or teaching effectiveness. If we're talking about assessment generated by students it's going to related again to quantitative measures pertaining to any number of aspects of the undergraduate educational experience. In terms of faculty, peer reviewed or, I guess, Dean, Chairs assessments of overall performance as it relates to expectations. The weight I put on the various – that's probably more than you need.

Interviewer: That's okay.

Interviewee: The weight that I put on assessment is going to – or different types of assessment data is going to vary according to the expectations that we have, this is with regard to faculty, expectations we have of the individual faculty member. I probably look at individual. I probably look at collective data as it pertains to programs more than I look at individual data so trying to get the big picture. I ***really*** like seeing comparative data, which really means by comparative I mean something that is really sort of an apples to apples, rather than apples to oranges to pineapple.

Interviewer: Okay

Interviewee: And so it's got to bonified comparative where it's reduced to a common denominator or something like that.

Interviewer: And that kind of leads into the next question. In thinking about this assessment data and this sort of nexus of everything we look at, if you could put all of, or any amount or any specific data on a dashboard, what would be on that dashboard? …And he has a dashboard.

Interviewee: So I got an even better one somewhere. Well, let's try to be succinct. My dashboard would have all the measures or the variables that are utilized by the AAU, also known as the American Association of Universities, the US News & World Report, probably the Times of London Study, and then some others that would probably express the same data on a per capita or a per tenure track or tenured FTE basis.

Interviewer: Okay

Interviewee: That's certainly – and so those dashboards cover research and other forms of scholarly productivity or creative arts. I believe they cover publications or measure publications. They cover certainly research expenditures especially competitively funded ones. They cover National Academy and other faculty award numbers. They cover doctoral degrees awarded and baccalaureates awarded. They probably cover some basic admissions data as it pertains to undergraduate student admissions. In some instances like US News (& World Reports), they cover, they have a degree of – they have a couple of numbers in there or metrics that pertain to development. And the only qualitative one they have really is, that I'm aware of is the reputational score but I don't really – I have no control over that. So I don't use it to any great extent.

Interviewer: Okay. How often, in thinking about using data, let's say we've got these dashboards, how often do you look at them?

Interviewee: It depends on what I'm doing. Around budget time I probably look at it fairly closely especially when its tough budget times, times when we're maybe particularly actively engaged in strategic planning. I don't know that everybody should be thinking strategically all the time, but when you're really focused on it that's when you start to look at data or you look at it more. Yeah, that would probably – that'd be the two main times.

Interviewer: Okay and now I'm thinking about data in general because we've talked a lot some student, or some assessment related data. We've kind of started to move into some other types of data. Are there non-assessment data metrics that you're interested in that you look at?

Interviewee: Yeah, probably but as I said I'm a bit of a numbers guy. Really, I look at so reviews of graduate programs, written reviews of graduate programs, assessment, or what I call outcome assessment of curricula or curricular experiences which are often somewhat qualitative. And there was one other which has escaped me. I had it and then I lost it.

Interviewer: We can come back to it. That's okay.

Interviewee: That doesn't mean I'll have it but if you want to come back, okay.

Interviewer: That's great actually. And now that we've kind of identified some of the different data pieces, assessment, non-assessment related I want to start bracketing our conversation into the three areas that higher education seems to always focus on administratively. Strategic planning is one you mentioned and that's where I'd like to start, if we can. So we kind of talked about this. I'd like to explore just a little bit more about what happens during the strategic planning process. So what kind of data do you typically really look at when you're doing strategic planning? What are the top ones that just come to mind that you always look at?

Interviewee: Well, actually we don't necessarily look at all or we have not in the past looked at a lot of data when planning. I'm not saying that's a good thing but it just tends to be the way we've gone about it which is why I think – I mean it's on the record, which is why think a lot of strategic plans are of limited value because they don't necessarily have – they're a bit too sort of – well, the term at the fifty thousand foot level, they have goals and objectives but they don't necessarily have a specific set of metrics that you are aiming to get to within a certain period of time, a lot of strategy. And then a sort of a dashboard of data by which you're going to assess how well are you progressing towards achieving those objectives. Our next strategic plan actually is going to have just those very things and that's why it's kind of front and center in my mind because I want to change that. Our last strategic plans didn't really have any specified targets or metrics that we're going to guide the process. So to your next question, well, if you had them what might they be?

Interviewer: Well, actually the next question is you talk about historically, what we've historically done here. And I say we because I am alone. But why do you think it's always been that way? Why do you think we haven't until now started moving towards these metrics that you speak of?

Interviewee: I think it's because of the way they start the strategic planning process.

Interviewer: The way they staff it.

Interviewee: They start…

Interviewer: Oh, they way they start…

Interviewee: The point from which they begin.

Interviewer: Okay

Interviewee: Which tends to always be sort of at a theory or a huge – what's our mission.

Interviewer: Okay.

Interviewee: What are we about? What do we want to be? What's our vision? What are our values? So we spend a lot of time discussing those things then, okay, you've got your values or you've got your vision. So you got your vision statement and that boils down to often particularly four or five goals. And then within those goals if there's sub-objectives, what are they? Again, they'll be statements and that's where a lot of strategic plans end, you know. We want to educate people as sort of the value of having a diverse, living and working in a diverse and balanced community. We want to – we believe that we can't be all things to all people so we begin to identify six areas that we believe would be a great basis for substantive, interdisciplinary/collaborative research efforts.

Interviewer: Okay.

Interviewee: So and then how you going to do it? What are the six – what were the six? What happened or how are you going to – and then what? A lot of plans don't go into that sort of detail. Part of the reason I think is the people involved, everybody wants to feel

valued and people start to get a big nervous if they don't see themselves in the plan quite honestly.

Interviewer: I wouldn't disagree with that. So now we can get to the question you had thought of. What other types of data would you include in the strategic planning process?

Interviewee: Well, and maybe it's not necessarily data but there are going to be some metrics. So for instance and I suppose this is data, I think you need to have some idea as to how much you're prepared to spend. In other words, we have to – maybe a better way of putting it is it's fine and dandy to have goals but I think you also need – you have to ask yourself how much is it going to cost to achieve that goal? And then based on the answer to that is it worth it? Otherwise, it stays very pie in the sky. So you know, and how much is it going to cost. It's probably going to have a number, a guesstimate, and then is it worth it? It means you probably got some other number or idea as to what the investment might realize either in terms of if it's – research is always the easiest or development activities because generally there's a revenue or there's a monetary return or a result. In terms of undergraduate education it's harder to say what the return's going to be except maybe you put a price on the number of additional graduates or the number of additional student FTE that might be generated as a result of said investment or said expenditure or cost.

Interviewer: Okay. And I'd like to take a moment and talk about the structure, the organizational means by which you're going to lead the next strategic planning process. How are you envisioning that it's going to work? How are you going to get this data, these metrics, and how is it going to impact and shape your decisions regarding the strategic planning process?

Interviewee: Okay. Well, we're not going to start at the beginning.

Interviewer: Okay.

Interviewee: So to speak…We're going to start – we're really going to start at the sort of so-called sub goals, revise them as we see fit, because we're presuming that the values and the vision haven't changed a whole lot. I mean and the initial statements, if you read them,

are sufficiently generic that it's just like if you looked at many institutional strategic plans that you could read them and just – oh, that could be hours. It doesn't matter where it came from. There are a lot of similarity because, as I say, they're fifty or eighty thousand perspectives and then you get a bit, come down a bit. So we will have some – well, we will have some specific benchmarks or dashboards of data or measures that we're going to use to help guide us with respect to assessing the progress we're making and also help us to keep our eye on just where we're trying to get to.

Interviewer: Okay.

Interviewee: Now, how are we going to determine what they are? I am going to have – I'm going to convene a committee of faculty most of whom are what I'd call midlevel faculty meaning that I see them as the leaders of the future. I see them as people who have at last fifteen and hopefully twenty or more years still to be here should they elect to do so, or to stay, rather than people who are going to be retired inside ten.

Interviewer: Okay.

Interviewee: I will provide them with as much information as I can. Basically – and there'll be numbers or metrics of the sort that I've already mentioned drawing from a variety of the existent surveys can be found in the public domain which seemed to reflect – well, they're used widely because they actually do mean something. And by meaning something, one, it's a number that you can be reasonably confident when calculated as accurate. Two, it enables comparisons. Three, it stands and enables comparisons both sort of externally or between sort of peers and over the course of time. So you're going to evaluate or judge progress. And we will probably, I expect, that depending upon the sub objective or the sub goal we will identify some fairly specific benchmarks or parameters that will be particularly relevant to the sub goal in question.

Interviewer: Okay

Interviewee: Maybe you should use the term sort of have goals then within goals you have objectives. So objectives and sub goals and probably using synonymously.

Interviewer: That's okay.

Interviewee: Yeah, for instance, I know we want to increase our graduate student enrollment. One thing that I'm going to be looking at, and I believe we have to really focus on is the number of, say, doctoral students per tenure track or tenured faculty member. We need to know what it is know and we need to know where we are aiming to have it, say, in five or ten years, and where we want to be after year one, two, three, and four.

Interviewer: Okay

Interviewee: That's a fairly simple example most people can understand. But for [RESEARCH UNIVERSITY] it's going to be a particularly relevant one.

Interviewer: Okay. That is perfect. That's what we're looking for on strategic planning.

Interviewee: Alright

Interviewer: I've created this interview to really bracket, let's talk about strategic planning, then next we're going to actually talk about resource allocation, which I'm sure will be great joy because it's something I'm sure you haven't been struggling with over the last few years. But some of these questions may seem a little redundant and that's okay. I apologize for it. But I really need to try and understand it from these three different perspectives. So is that alright?

Interviewee: Yeah. And we haven't thought about – we haven't had any resources to really allocate.

Interviewee: I had a taskforce last spring that really did a tiptop job on providing me with some guidelines on resource allocation. And so I would basically be referring to that, the

recommendations and the way in which we look at things, you know, use data to make some comparisons. So my answers may be a little more vague.

Interviewer: That's okay. I'm – we're going to data mine through this like crazy.

Interviewee: Okay

Interviewer: So I'd just like to explore with you your perspectives on the process of resource allocation from your perspective as provost. And let's start with, big surprise here, when developing or finalizing even though we just talked about this a little bit, how does assessment data that we've talked about, shape your decision making process and ultimately the final decisions?

Interviewee: Well, you got to have data because everybody – if you're relying on everybody to tell you they're all fantastic, they're all working hard, couldn't work harder, and they're all fantastically productive, and could be even so much better if you gave them more, but it would just be an absolute catastrophe if you gave them less. So that's a fairly good statement. So you have to have data, the data that I would use just from the top of my head annual academic FTE tour and let me back up. I look at it at the programmatic level.

Interviewer: Okay.

Interviewee: I don't look at it at the college level. I look at it at the programmatic level. So you know you have some ideas of what the college as a whole is doing but you really got to look at it programmatically.

Interviewer: Okay

Interviewee: So I look at annual academic FTE. I look at things like time to graduation within a major. I look at the number of, well, FTE and number of students graduating or

number of majors more specifically. I look at total budget or previous budget. I look at total number of faculty by tenure track and sort of temporary/instructor or clinical. I look at TAs, all designed to try to get an idea of the comparative cost for the existent investment, if you like, that we're making in a program and compare it to what the apparent outcome is or return in terms of students taught, degrees granted, etc. and we put a number on those. Then the research side of things, or the scholastic side of things pretty much standard total research or R&D expenditures, total competitively or federal competitive expenditures, expenditures per tenured, per tenured track faculty, numbers of publications in peer review journals and/or books, average number of citations, graduate, number of graduate students with a greater emphasis on doctoral students total and, again, per faculty capita. I try to take – I look at, to a lesser extent, the extramural support for those graduate students versus internally funded support in the form of fee waivers and centrally granted TAs. In other words, who's giving us, who's matching, or who's working with us and meeting us halfway compared to, for instance, handout. They can't possibly do anything unless you give them a hundred percent for everything. So it's never - that's extreme but you understand what I mean?

Interviewer: Right, absolutely, yeah.

Interviewee: Some places will say you give us a TA and we'll roll that TA money over every two years because after two years we'll pick it up on grants and other people will say we'll take it and, yeah, they'll keep it on the one student and the student might have six years to finish or seven years. So one place you're getting three, three and a half students supported. Well, in the other place you're getting one. So what's a better deal for the institution, that sort of stuff? We look a little bit at – I look, again, at research, I look a little bit at post docs, and alike, but not a whole lot of post doc data. Then I probably look at the number of, the average number of, credit hours per year per faculty. Let me think what else. From the academic side, I mean I try and look occasionally at development numbers but that's more in reference to say a dean or something like that rather than – that's not a programmatic deal, per se.

Interviewer: So we've talked – I want to just so I'm clear in my notes here. In terms of shaping you're looking at what's going to be best for the institution, what's the best utilization of resources and then these are some of the metrics you use to look at to determine that.

Interviewee: And I guess, except in times of extreme difficulty or poverty, I'm trying to work out or put programs in one of three broad categories.

Interviewer: Okay

Interviewee: Those worthy of investment, either because they are strong and we want to keep them or we think they got the potential to grow and really be good, those we want to maintain, and those for which we feel some downsizing is justified, in other words, you can't justify the continued investment at the current level based on the returns. So I'm putting a lot of money into some indoor program. They're giving us very little either in F&A and/or in student numbers or yeah sure, they're recruiting some students but they want to waive the fees for eighty percent of them. You have an extreme example. So you have to say so would they come if you didn't – if they didn't have the fee waiver. If the answers no, well, maybe that's because you aren't that good. No matter what you tell me.

Interviewer: Understandable…

Interviewee: Okay

Interviewer: Yeah, yeah, and that's great because it's – I think we've covered the next couple of questions just because we've got a really comprehensive list here. We talked about what assessment data impacts your decision, how it impacts your decision. Are there any other data points? You've mentioned you don't really look at the development side of the house too much, probably more…

Interviewee: From a programmatic perspective…

Interviewer: Just programmatic – so I'd like to just talk about the hierarchy of assessment data for just a moment. And it's just, you know, if you can rate it how – rate your usage of these kinds of data. and I can explain what those categories are.

Interviewee: Keep talking….

Interviewer: Sure

Interviewee: I think I've got something else in here too now that I think about it that reflects some of the stuff I use.

Interviewer: Okay, so in thinking about student learning outcomes, would you say you use that kind of data extensively, moderately, somewhat, or minimally?

Interviewee: Somewhat…

Interviewer: Somewhat – and course outcomes…?

Interviewee: As in evaluations…?

Interviewer: Yeah, when you talk about course assessment data, faculty evaluations, average grades within the course, those kind of – really, did the course meet it's objectives at that level?

Interviewee: Yeah, and we're talking in terms of resource allocation?

Interviewer: Yes

Interviewee: Or, just in general…?

Interviewer: Just in making a resource allocation decision…

Interviewee: Somewhat…

Interviewer: Somewhat – and program outcomes – extensively, moderately, somewhat…?

Interviewee: Moderately…

Interviewer: Moderately – and then institutional level outcomes….?

Interviewee: Probably fairly extensively as to how they're contributing to the big picture. They're helping us be where we want to be.

Interviewer: Okay. And I'm going to categorize some of these just based on what you've been talking about. So let's talk about faculty productivity.

Interviewee: Yep

Interviewer: Some extensively, moderately, somewhat, or minimally…?

Interviewee: If we're talking faculty, collective faculty, productivity, extensively. If we're talking individual faculty productivity probably moderate to somewhat…

Interviewer: Okay, and let's look at institutional research productivity, so collective research productivity, would you say extensively, moderately, somewhat, or minimally?

Interviewee: Extensively…

Interviewer: I'm just looking over our notes here, and I think that pretty much captures – I think those six categories will capture pretty much the data metrics we've been talking about.

Interviewee: Okay

Interviewer: So I want to go in to a very brief just sort of case example, if you've got one, and I know that [THIS UNIVERSITY] had to make some hard choices. They had to go through a [REVIEW] process a few years ago. Feel free to use any example you want but can you briefly walk me through an example of how you use data to make institution wide resource allocation decisions or recommendations depending on your example? Maybe in the context of recent budget cuts, what data really drove the decisions to cut or make an investment or, in your case, make an investment and maintain it or downsize it?

Interviewee: Existent budget, number of faculty, number of majors, number of graduates, total FTE, graduate program, yes or no. If yes, number of graduate students, time to graduation. Yeah, so that's undergraduate, okay. So graduate students – I'd say research dollars or scholastic productivity. So yeah, research dollars but not everybody is in a position to generate research so I would look closely at, what I call, scholastic or creative output in terms of journal articles, books, juried shows, or performances, things like that.

Interviewer: Okay

Interviewee: Again, in total and per faculty FTE…

Interviewer: At the institution level?

Interviewee: At the programmatic level…

Interviewer: At the program level…

Interviewee: Well, everything I just talked about was programmatic.

Interviewer: Okay, perfect. Alright, we're on the homestretch.

Interviewee: Good. I said 1:00 and actually I meant quarter till, so I'm fine, keep on.

Interviewer: So we've got two groupings left, a grouping and then a case study question. So the last section let's bracket into policy, okay?

Interviewee: Okay

Interviewer: And we're just talking about your role as provost in creating or revising policies at the institutional level. So just out of curiosity as a provost, what level do you get involved with the development or revision of institutional wide policies?

Interviewee: What do you mean at what level? Sort of like…You mean high level. I mean I'm involved – let me put this way. I'm the one who signs off on all policy changes.

Interviewer: Okay. So you're an approver.

Interviewee: Right

Interviewer: Are you also a developer at crafting?

Interviewee: It depends on the policy.

Interviewer: Okay.

Interviewee: So if it's an academic policy in all likelihood, yes. If it pertains to, say, the business or financial operation of the institution I mean I don't have to craft it but I still have to authorize it.

Interviewer: Okay. So do you believe that assessment data, as we've talked about, drives policy creation?

Interviewee: It must or it does because – what's the word – it influences the way you think and the way you think reflect, analyze, often leads to policy changes. But the – in my mind, it's not always sort of an overt application of data. You know, people aren't consciously saying, well, these numbers say that therefore we're going to change the policy. A lot of it is based on practice. Fortunately, it's often the result of a problem that has to be corrected. But in a number of instances particularly as it pertains to, again, in particular scholarship or research policies might change on the basis of numbers.

Interviewer: Okay. Again, this is kind of one of the base questions here. But if you could see any type of assessment data while you are developing a policy and/or approving it, what type of assessment data would you want to see or do you use?

Interviewee: Would it be – it's probably going to be data, right, that pertains to the entire institution.

Interviewer: Okay, so institutional data.

Interviewee: Institutional data and it will be – and generally that data will pertain to undergraduate instruction and/or research/scholarship.

Interviewer: Okay. And any reason those two in particular?

Interviewee: It's the bulk of what we do. It's why we're here.

Interviewer: Now thinking about the same question in terms of policy creation or non-assessment data, anything you would look at specifically or do you look at specifically, I should say?

Interviewee: When you say non-assessment data you're talking about qualitative input?

Interviewer: It can be anything – you kind of grouped everything into institutional data, for example.

Interviewee: Oh okay.

Interviewer: So I think we could probably just run with that if you'd like to.

Interviewee: Yeah, again, if it's policy and policies are basically institutional documents.

Interviewer: Okay

Interviewee: But for instance, let's say you decide to revise the policy on sexual harassment why? It might be because of something you've noticed, some trends here, which are data driven, or you might do it because of some legal opinion somewhere else or a legislative action that forces you to change it. so it just depends on – as you know there are all sorts of personnel policies, and the like, which are bounded in law, collective bargaining rights, legislative statute, things like that, legal opinions are what I meant by law. It doesn't matter what I think, sometimes you got to change the policy because you're required to do so to be compliant, the regulation or regulatory body.

Interviewer: Okay and so we have reached the last question.

Interviewee: Okay

Interviewer: And I really appreciate your time today. And now that we've gone through strategic planning, resource allocation, we've talked about policy, we've look at all the different kinds of assessment data, I just want to have a very brief discussion at your convenience on how do you as provost make decisions? Just what's your decision making process?

Interviewee: Geez, I wish I knew. You have to be as well informed as possible and that can mean all sorts of things. Sometimes you got to sort of be just aware of sort of almost at a high level, organizational needs, or practicalities, and other times you really got to get down into the weeds, and dig and delve and get down and sort of very close to information that by in large would more the purview of a chair or a dean but just depending on the nature of the matter at hand. But I do, I look principally at reasonably macroscopic data, and you know, just basically on the – they're – these various things across the top there.

Interviewer: Uh-huh

Interviewee: Lower division FTE, student FTE, upper division, graduate, instructional faculty, I forget…

Interviewer: The tenure tenured track…

Interviewee: Yeah, one of them are meant to be untenured awards, distribution grants and contracts, F&A, facility and administration expenditures or indirect cost generated, distributed total direct costs, how much of this is development or foundation generated revenue, visual programs. These aren't colleges down here by in large. Then we have this – I haven't talked about it because it's not that big, self-sustaining expenditures or revenue, federal appropriations as compared to state appropriations, all other expenditures, direct instructional expenditures versus student FTE and the student FTE has a value sort of based on what tuition is or derivation thereof, and the estimate tuition revenue. This one's got

distributed student FTE per instructional faculty, you know, so things like that, pretty meat and potatoes type stuff.

Interviewer: It really is and I – that pretty much answers the rest of that question, what key factors, take me through the generic process. It sounds like – I think we've covered everything. That – were there any questions you had for me or…

Interviewee: No. it sounds pretty straightforward.

Interviewer: Yeah, I mean…

Interviewee: Do we get to see sort of a summation of your findings at the end of the day?

Interviewer: Absolutely, the process will be, I'll get this interview transcribed, we'll get this taken care of, and before I analyze it I'll send you the actual transcribed interview.

APPENDIX F

PRIVATE UNIVERSITY INTERVIEW TRANSCRIPT

Interviewer: It is November 30th; I am here with [NAME REDACTED] at [PRIVATE UNIVERSITY]. Dr. [NAME REDACTED], I have gone through informed consent, everything seem OK? You are consenting to be a participant?

Interviewee: Yes.

Interviewer: Wonderful. So I want to just thank you first of all for sharing part of your day. I know provosts are ridiculously busy. And I will try and get through this as quickly as we can. What I am doing today is we have a semi-structured interview format. I have got some questions that I will walk you through. There are no right and wrong answers. Feel free to answer in as much depth or as little depth as you feel comfortable. If you prefer not to answer say, you know, I am just not really comfortable answering that. And that is OK. I will warn you ahead of time that because this is a follow up study these questions might seem a little redundant at time. But we are going to bracket them on three topics. We are going to be talking about assessment data as it pertains to strategic planning to resource allocation and then to policy development. So if you have any questions just jump in. And let us just go ahead and start if we may. So when I use the term assessment data, to you what type of data points come to mind?

Interviewee: Probably, excuse me, probably three areas. One is a provost definitely departmental assessment, how our departments are using assessment data to look at their learning outcomes and how they are doing at addressing those learning outcomes or meeting those learning outcomes. Also, in terms of our departments that have external accreditation we are looking at external accreditation now for our business department. We have it for our education with NCATE and then with our music and our athletic training. And so when I think about specific types of assessment data we need to gather for specialized accreditation that is probably another area that I think about. And then probably the last area would be for institutional data, especially – and I see some of your questions later are on strategic planning. It would be what are we using in terms of monitoring our key performance indicators to measure our objectives for our strategic plan? So those are probably the three areas that I think of most.

Interviewer: So I am trying to just establish a baseline or what you perceive assessment data to be. And we will probably dig a little bit deeper into specific types of data points so the next question actually talks about that. If you had a hypothetical dashboard of different kinds of data that you could look at just in terms of using it for decision making what types of data

would you have on that dashboard? What would it look like? How often would you look at it?

Interviewee: Actually we are in the process of developing one with Tableau and I was on it today. So what we, I do not know if you are familiar with the Tableau software but that is what we are using. And our institutional research and I were on the phone talking about expanding some data. So what I used today was looking at our student credit hours for fall and spring for – by program type. So I was specifically interested in our continuing studies data. And we are wrapping up a semester and looking at spring. And so what is our enrollment real time for by program for our continuing studies? And as I was looking through that I was trying to look at that same sort of data for our graduate program. So we were putting together a Tableau that would allow us to do that. I met actually this week with our deans and they – and so I am an interim provost so we are transitioning to a provost coming in and trying to build some infrastructure for our deans that allows them to look at data and access data.

And so the other data that we are putting together for them is student credit hours generated by faculty, also student credit hours generated by department looking at course sizes, also – Friday afternoon, I am trying to remember everything that is on there. [laughter] But what we were basically asking them is what data do the deans need to make the decisions that they need to make on resource allocation within their departments? So both on making case for maybe new faculty needed in an area or in terms of curriculum decisions or under enrolled courses or very large size sections of courses. So we – I think I am looking at data that both helps me big picture monitor program enrollment. I am trying to provide data for deans to be able to monitor their curriculum and to monitor how their resource allocation is working. Those are probably the ones that I am paying the most attention to. But then also looking at – we have a dashboard that I look at every week on our enrollment for our next year, just our regular day undergrad program. And so we are updating that constantly and getting reports about how is our enrollment – how are our enrollment numbers looking for next year. And all institutions are paying close attention to that. So that is probably the other one that I look at that is in another VP's area but paying close attention.

Interviewer: So now let us take a moment and – excuse me, segue way out of assessment data and just into data in general. Is there any type of data that you are the most interested in as provost? You alluded to enrollment numbers.

Interviewee: Yes, definitely enrollment numbers, [laughter] student credit hours generated by program type, those are the numbers that you are constantly paying attention to because that is your revenue. And then as I mentioned probably enrollment in programs or projected enrollment. We have enrollment funnel for our continuing studies program and our graduate studies that tracks how many inquiries we have all the way down to applicants and then

students that are enrolling in the program. So we are paying close attention to that funnel data to see how are we doing with students already enrolled in the program but what is our pipeline. And is our pipeline looking the way we want it to for our programs? That is probably the data that I am paying the closest attention to now. And primarily because we are trying to do revenue projections for next year. So this is the cycle when we are trying to say how are we doing in terms of our projected revenue for this year and then what are we looking like for – or what should we put in the budget for next year.

Interviewer: So now we kind of – this is great, by the way. [laughter] I am frantically making notes and going I am seeing this, seeing this.

Interviewee: And I would be happy if it is helpful to you to kind of show you those kind of dashboards. I do not know if you need to see. I can pull those [crosstalk]

Interviewer: We can take a look at those near the end. That would be fantastic, thank you. So now I want to try and bracket our conversation just into the strategic planning. So if we can start thinking about strategic planning and assessment data, when you are leading the institutional wide strategic planning process –

Interviewee: I am going to grab our plan.

Interviewer: What kind of assessment data do you think about when you are leading strategic planning?

Interviewee: Our strategic plan is broken down into eight different goals. And so each of the goals has objectives. And then within them key performance indicators. And actually you can access right now our progress on each of these objectives on our main website. So they are available to the public. So in terms of assessment data we have identified for each KPI what it is that we are looking at in terms of numbers that we want to hit. For example, in the first one advancing our approach to integrating [TYPE REDACTED] faith and learning we are looking at tracking faculty scholarship and number of publications in different arenas. And so in that case I am looking at faculty scholarship data that they turn in. And how are we doing in that area. We are also looking at quite a few of our KPIs are monitored by student self-reported surveys, so NSSI or N-S-S-I. And so looking at that sort of data in terms of survey data to see how we are doing in terms of student faculty interaction or critical thinking or those sort of areas.

So it kind of depends on – when you ask the question what sort of data am I looking at it depends on what outcome I am trying to assess. If it is a – one number we are paying close attention to right now is our retention data for our freshman to sophomore or first semester freshman to second semester freshman. They have all registered and now we are looking at – I know right now we have a ninety-six point five percent retention rate. And so we are tracking down those freshmen that have not registered and asking that question and trying to get those freshmen registered or find out if there is a reason that they are not planning to return. We are always paying attention to our six year graduation rate. And then we just disaggregate that by student type, for example: males, females, diversity, athletes. So it depends on what objective I am looking at what data I am going to be paying attention to to monitor that.

But I will say having those KPIs very public and actually posted on our website and monitored. And talking about those a lot helps me to pay attention to them and try to move – I will move the needle in lots of different ways. One objective is to have – increase our international scholars. So I am working right now to try to bring two Fulbrights to campus. So it might be – I am counting – that is fairly easy count to say how many international faculty do we have here. But trying to increase our international faculty, that is one of our goals.

Interviewer: So I want to explore just a little deeper in this if I can. You talk about how the data that you look at relates to the specific KPIs. But in talking about those specific data points why do you select those to look at? So do you find it is useful to include that in the process? Does it help you address and publically report? Why are you – I am kind of curious, why did you pick that data in this process?

Interviewee: And actually when we developed our strategic plan when our new president came in that was – it was new to us to be very specific in each of our KPIs to say – to identify the data source and then to set up a dashboard to monitor it. We have lots of conversations initially about how do we measure things like integrating faith and learning. And we made decisions to say well, it looks like the best way to maybe measure integrating faith and learning is things like faculty publications in [TYPE REDACTED] journals or faculty asked to present on [TYPE REDACTED] panels or something. But there is some times when we trip up on things like how do we if we are trying to increase the capacity of students and faculty to integrate faith and learning inside and outside the classroom which is one of our objectives, how do we measure that? And so we have said things like it is the number – we want to make sure that every department has student learning outcomes that are focused on faith and learning integration and that they are assessing them. Is that the best way to measure that? Probably not. So we go back and we are constantly evaluating, reevaluating this KPIs and asking the question of is the data that we are gathering really help us answer the question. And we have a group called University Council that we meet monthly and we just walk through every one of these strategic goals. And we present the

dashboards and our progress on each KPI and that is a question we are constantly asking. Here is where we are. Did we use the right indicator to measure this? Are we making the progress the way that we want to make progress? If we make changes to an indicator like we might say we were using NSSI to measure this. But we do not think that that is giving us the data that we need then we will modify what assessment we are using. So I think the initial process of determining what measures we are using was done in the strategic plan process, the assess – or the evaluation of are those still the right indicators to be using is done through our University Council process. And also with us just kind of paying attention to each of these every year saying are we making a difference, is this the area we should be monitoring?

Interviewer: Great.

Interviewee: Some of them are easy, I mean, some of them are – anything that is a retention question or a financial question it is easy. Here is our goal. Let us raise a million dollars. How are we doing towards that goal? Increase our retention to a certain number. That is easy. But it is how do we look at things, for example, in diversity? Are students growing in terms of their intercultural competency? That is a little harder to figure out. What is the measure? And so we have tried to use a variety of measures from surveys to various indicators. But we are always asking the question are we really finding the data that we need?

Interviewer: So in being fair to the data which I do not know why but for some reason data has taken on a whole new life of its own for myself right now. Outside of assessment data are there other kinds of data you look at in the strategic planning process or do you feel like they have all kind of been integrated into – through the discussions and deliberations you have had? Are there any data points that we may have missed?

Interviewee: That is a good question. Wow, it seems like the majority of data that I am tracking [laughter] has – I can fit it into one of our key performance indicators. I am trying to think of anything that is outside of that. Been doing some work lately on faculty salaries and trying to determine what is the best way to continue to monitor our faculty salaries and to make sure that we are staying up with market salaries. But even that is loosely in a key performance indicator to say that we want to retain good quality people. So I think the majority of our data points that we are looking at we could relate back to our KPIs.

Interviewer: So I am curious about your role as provost. As Provost can you kind of take me through the working process of how you have used all of this data both assessment related and non-assessment related into your strategic planning process? So essentially how did you make it all work? How did you make it fit together? And more importantly how did that data impact and shape your work in leading the process?

Interviewee: Well, I think the – as we develop the strategic plan – so maybe I will answer that a couple different ways. In the process of developing this strategic plan what we did differently from previous strategic plans is try to be very explicit about if we stated we had an objective, we said how would we know when we met that objective? And we were very specific in trying to identify which data sources would help us to know that we had met that objective. I think prior to this plan we had a lot of data. And we had an institutional research committee which I have served on for years that was looking at all our surveys or looking at all our various data. But our strategic plan was more of a list of things we would like to do and a non-prioritized list. And there were often times comments like well, it is in the plan, we need to do it.

So everybody would try to make sure everything got in the plan because then there was hope in the next cycle, five to ten year cycle that that objective would be met. But we did not – we were not strategic about how do we prioritize different goals and how do we measure our progress?

This planning process we have done, I think, a much better job of laying out how we are going to measure the process or our progress. That I think we have connected in a much better way. What we are trying to do now is prioritize which objectives we try to move forward because there are limited resources. And so the data helps you decide which objective can we make progress on. And we actually have – we are in the process right now where we have made some funding available at the university strategic initiative fund. And faculty, staff, administrators are applying right now for this money that would help them to – help us to make progress on one of these objectives. And so people speak specifically to we would like to bring in, I will use the Fulbright example again. We would like to bring in this Fulbright scholar because – and here is how much money it would take because this would advance this initiative.

We would like to use this process in retention because that will helps us to retain more of our diverse students and that is one of our goals. And we measure that by our retention of our underrepresented students. So people are very specific about their request. And it is all driven by our objectives. That way we can prioritize how we are spending our money. And I think that is what we have done a better a job of in this cycle is connecting the, excuse me, connecting the objectives to how we are going to measure that. And then saying if we believe this is really important then we are going to offer funding to help us move forward in those initiatives. And then as a committee, as a university council, then we look at those – all these different proposals and say yes, here is where we are willing to put our money because this looks like it will make a difference and move us forward toward one of our goals. And we feel that is a very important goal. And we ask them how are we going to measure that.

Interviewer: So it sounds like the data really becomes the bench – I do not want to say litmus test but you are using data strictly as a way to evaluate how well you are successfully achieving your goals. Is that –?

Interviewee: Yes, I would say that is – yes.

Interviewer: Great. That – and we started to allude a little bit to resource allocation. I think this is probably the best place to segue way if we can.

Interviewee: Yes.

Interviewer: So now we are going to switch to bracket number two and just think about resource allocation. How does data drive you in your process of allocating resources? So little bit of – a little skewed view on this, if we can. So for you as Provost, when you are developing or finalizing a budget allocation plan how does assessment data shape your decision making process and maybe ultimately the final plan?

Interviewee: Well, I think in a couple areas. It is definitely going to shape which faculty you are going to be requesting in your new faculty lines. Because – and that goes back to the data or student credit hours generated, class sizes and departments, student enrollment, all of those things make a strong case for we desperately need a faculty member here in health sciences. So my deans are using the data that we are providing them to make an argument for this faculty line. And we need to make sure that there is a good argument. I mean, everybody would like a faculty member in their department but you have to say why, why is this the most important faculty member that we have? And it may be that it is based on courses that are already existing that are – and a program that there is just way too many students in the major or just too much interest in that major so we have got really large class sizes. Or it might be that people are going to make an argument for a new faculty line based on data that they have gathered in terms of a new program that we are going to offer.

So that is the other thing we are always looking at. For example in continuing studies we would like to offer a new site, one of our continuing studies programs at a new site. What is the data – what is the market data that you have, dean, to help me understand that this is going to work? That – how many students are we going to get? What have you done to go out and check the market? Because if we can generate new revenue that is another good argument for me for a faculty line. So the deans are using the data to argue for faculty lines.

I think the other place that we are constantly using data is to ask questions about what sort of resources do we need to support a department for additional resources? Such as we have a high enrollment right now in sciences. And so we have, with a new science building opening, we have increased enrollment in biology and chemistry. And so we need more – because we have more lab sections they are going to make an argument for we need more supplies, we need more resources to be able to service these students. There is a place where you are using data, just number of students, number of sections, to make a resource request for additional supply lines. The other area that probably I am always looking at is what do we need in terms of faculty development. So I mean faculty lines, departmental lines, and then what kind of – what additional funding do we need for faculty development, faculty programming. And I go back to strategic plan and say well, what is our plan?

We want our faculty to be more inter-culturally competent. So I might be requesting some resources for training in an area. Or we want faculty to – we want to expand our off campus program offerings. And so I need to have some resources to be able to allow faculty to travel and to check out new sites or something. So while that is probably not quite so data driven, it is based on a strategic plan initiative. And there is budget, excuse me, implications to trying to move that forward.

Interviewer: So in thinking about data and resources, if you have to pick a type of assessment data or a type of data that really impacted the budget process more than others what data would that be? Is there one that just stands out to you?

Interviewee: Well, it is probably enrollment data.

Interviewer: Enrollment data?

Interviewee: Yes. Because your biggest requests are always faculty lines. And your enrollment data is going to impact your supply lines and your faculty lines which –

Interviewer: And that is the most concise answer I have gotten in all my interviews so far. [laughter] It is always like I have got to catch up. So are there, I mean, we have covered a pretty broad spectrum here. But are there any other data points that you can think of maybe that are not necessarily assessment related that you consider when making resource allocation decisions?

Interviewee: A lot of, excuse me, a lot of what academic affairs funds is support for faculty development. So travel or conference attendance or workshops that we will put on for faculty or – so all those professional development areas. I am trying to think of what data do I look at to decide whether I send you to a conference or not or whether I – you want to do this thing and you are coming with a request that this is a good professional development opportunity for me. The data I am looking at is probably more along our tenure and promotion areas. So I am looking at how are you doing in terms of are you a faculty member that has been consistent in scholarship? And if I can allow you to go to this conference is this going to continue to help us in terms of scholarship as an institution? Are you one that I see as a potential leader in maybe using this innovative technological pedagogy? And if I can send you to this conference you can bring that back and help your peers? Are you really, really passionate about helping minority students? And if I can support you in this way that could potentially help increase our minority retention.

So I think part of what you are looking at is the strengths, excuse me, the strengths that people bring and trying to support their professional development. So there are data points that I think inform that. But it is an n of one. [laughter] I am looking at how are you doing in terms of your scholarship, your teaching, your service area, and trying to support you to move you forward. So I think there is – and if there was a data point I am looking at it is probably the age of my faculty. [laughter] And it is how many faculty has been hired in the last so many years. We have about fifty percent of our faculty that have been hired in the last seven years. So those are newer faculty that I need to be putting some resources towards to develop them in both professionally and in areas that they can come back and be department chairs and be leaders on campus.

So part of what you are always looking at is how do you provide those opportunities to continue to move your whole faculty along. Or it might be I am trying to develop some more – free up some funding for newer faculty to be able to do summer research because I want to make sure our – with a new science building we have got people in there working with students to do research. So a lot of the resource allocation that I do is based on what is my faculty's needs.

Interviewer: So I think, let us see, we have talked about other data points. I want to just quickly survey that I have inserted into this, unofficial. We have talked – I am going to make a couple notes here to myself. So I would like you to just rate – don't you love the fact that somebody waited until the end of the day Friday to come and do this kind of interview?

Interviewee: I have been struggling with a cold all week as you can tell so it is – if I can find my cough drops. Go ahead.

Interviewer: I think I have some left over but no, I used the last one. So on a scale of extensively, moderately, somewhat, or minimally, I would just like you to rate the following types or rate your usage of the following types of assessment data categories as they pertain to resource allocation.

Interviewee: So it was excessively?

Interviewer: Extensively.

Interviewee: Extensively.

Interviewer: Moderately, somewhat, and minimally. And I will tell you a category of types of assessment data and you just tell me how often you would use it or how in the scale in regards to resource allocation. So the first one would be student learning outcomes.

Interviewee: Probably I would say somewhat.

Interviewer: Somewhat. And course level outcomes.

Interviewee: The challenge is a provost does not really see the course level outcome results as much other than – well, I guess I am thinking that would be course evaluations that we would see is how students would say. And so I would use that data in evaluating an individual faculty member. So in terms of resource allocation, again, you might help them to develop if they had some struggles in teaching. So I would say probably somewhat, a somewhat level.

Interviewer: And if you want to somewhat to some – if you want to go in between these it is fine. They are not absolute [crosstalk] scales. Program level outcomes?

Interviewee: A lot, I would say moderately to extensively.

Interviewer: And institutional outcomes.

Interviewee: Extensively.

Interviewer: Extensively. And you have mentioned several times, just going through my notes here, faculty needs. So in terms of data regarding faculty needs: professional development, faculty lines, those kinds of things, how often would you use that data in resource allocation?

Interviewee: I think extensively, yes. [laughter]

Interviewer: Sorry, it is a formality. I already knew the answer but I do not want to put words in your mouth.

Interviewee: We get requests daily.

Interviewer: A couple that we have not talked about are, for example, facilities. How often do you look at facilities data in terms of resource allocation?

Interviewee: Our facilities – the needs of individual facilities as far as windows, doors, those kinds of things are maintenance. Our VP of our business office VP is the one that really does all the allocations of resources for facilities and oversees those folks. What I pay attention to is technology. So if there is classroom technology that needs them then that falls in my area. And so I am paying attention to data about what kind of upgrades do we need to our classroom projectors or our classroom computers or that sort of thing. So when that data comes in that funding comes from my budget.

Interviewer: So we will skip over facilities and technology. You would say –

Interviewee: Yes, I would say technology extensively, that is –

Interviewer: Extensively.

Interviewee: That is mine, classroom technology. So if it was facilities – the only facilities really is classroom furniture that I am responsible for.

Interviewer: That was an example. Is there any others that might fall in your area?

Interviewee: The only other would be an office remodel that we have a space that we are going to remodel for a department. And so that falls within my area. I am given a certain budget and we work with the department to figure out what do we need and how do we remodel this space. But the majority of things go through our business office.

Interviewer: Now I am curious again, and there is some process questions, some data questions in here. But I am really curious also about you as a professional. Can you walk me through how you make a decisions, how you use data to make a resource allocation decision? I mean, we have talked – we have touched on a lot of different ways. But generally speaking how do you professionally make a decision regarding resource allocation and how do you use the data to make that decision?

Interviewee: Probably first of all making sure that you have all the data that you need to make the decision. So as I mentioned, today I was looking at our real time enrollment data. I needed some more. So to – so making sure you have that and then involving whoever you need to make sure you get that data. It is – there are cycles in when you need to make decisions. So there are cycles right now that we are in that we are putting together a budget for next year. So right now I am using a lot of data about – to decide my faculty lines or meeting just before you was to decide what our departmental needs. So I am looking at data to make those budget requests. So there are timely cycles of when you are asking for different data. I think once the resource is available – so this year's budget, then I am looking at data to – so I am trying to determine do I allocate this resource in this way. Then I am leaning heavily on the people that are closer to the need to give me – to help me interpret the data.

So for example, if it is a faculty development need I am going to be asking that dean. Help me understand why – do you think this is where this resource should go? Help me understand why. I am going to share with them pretty much all the data that I have. I do not hold anything back. And we have dean councils and I share all that data and provost cabinets where I share as much data as I can and am very transparent with the data to try to have them help me make the decision. We have probably moved - in my interim role I am probably even more transparent because I feel that it is very important that the deans be able to understand the resource allocation process as we bring a new provost in. So we have been – they have been very involved in knowing if you were a dean I am a dean I know what you

have asked for and you know what I have asked for. And we both are aware of that. That had not historically been quite as transparent. And I think that is important that it is so that you know why the provost decides that we are going to ask for these faculty lines.

Interviewer: This is fantastic. I am –

Interviewee: I was just going to say, did that get at your question? [crosstalk] I was trying to think of –

Interviewer: There is no real right or wrong answer. I am – and I will tell you the research questions as we debrief at the end. But it I – it was a process and how do you do that. And that was perfect, thank you.

Interviewee: It never feels like a perfect process. [laughter] I will tell you that. There is never enough money.

Interviewer: Really, I had not noticed that in higher ed. [laughter] the last fifteen years. So we are on to the next to the last section. We are on the home stretch. So thank you, just bear with me.

Interviewee: My voice –

Interviewer: I want to bracket now into the world of policy creating. We are still talking about data assessment and non-assessment data. But as the provost here at your institution what level do you get involved with in regards to the development or revision of institutional wide policy?

Interviewee: We have a cabinet. I sit on the cabinet. And that would be where we would revise any institutional cabinets or any institutional policies. So I am very involved and an active voice in terms of representing the academics. If it is – so from the institutional cabinet decision but we also have policy, for example, that I am going to involve my deans in helping us decide. One we are talking about right now is the role of lectures and credit allocation for lecturers and how we compensate and how we use lecturers. And so that is

something that at the dean level we will talk about. We will make some decisions and then it will move through the chains in terms of faculty handbook changes. I also sit on our faculty executive committee. So I am involved in any faculty recommendations for handbook changes.

Interviewer: That would include promotion and tenure?

Interviewee: I also sit on our faculty promotion and tenure committee. And the committee makes a recommendation for promotion of tenure to me. And I take that to the president and – so I mean, I think my position is involved at pretty much every level. I am also – I also sit on our curriculum committee. So I am trying to remember all the committees I sit on. But those would probably be the main ones in terms of the academic areas from cabinet to my cabinets to the faculty exec to the curriculum.

Interviewer: And as a side note, I found that provosts really get scared when they start talking about all the committees they sit on. [crosstalk] So do not worry about the exhaustive list. I do not want to scare you off [laughter] before the interview is over.

Interviewee: but it is good because you can offer – you could – what you are constantly doing is helping to frame things in a larger institutional view. People say well, we are doing this because – and you can say well, maybe that is not the reason we are doing that. Here is the little bigger context so that they understand it when you are working with faculty. And then cabinet allows you to understand that larger context.

Interviewer: I am going to move the mic just a little bit closer so you do not have to talk so loud. [laughter] Try and save your voice. Do you believe that assessment data drives policy creation or revision?

Interviewee: It should, I definitely should.

Interviewer: Why?

Interviewee: Because if you are paying attention to the data you are going to make policy and then you are going to be continuing to monitor the data and if you realize that the data is not the results that you were hoping for you are probably going to go back. You should go

back and make some policy changes. And I am thinking more things like maybe, for example, as an institution we have made policy decisions on our admissions. And if we are not getting the students we want or if we are getting too many students we might go back and re look at those admissions policies and make some changes.

Interviewer: So if there was any time – now obviously as provost you have access to all the data. [laughter] But if there was any type of specific assessment data that you would like to see while you are working on institutional wide policy what assessment specific data would you like to see? Or do you currently use?

Interviewee: I am trying to think. I think – you are – I am primarily paying attention to, as I mentioned, enrollment data in terms of faculty load data, student credit hour data. Just institutionally how are we doing at delivering our product? And how are we doing at being able to do that in a way that has high satisfaction to our customers. [laughter] Which would be both our faculty and students. And so you are paying attention to survey data from student satisfaction data which is NSSI, N-S-S-I, and you are paying attention to faculty satisfaction data. When we make policy changes – I think often times a recommendation for a policy change comes because someone has experienced something that they did not like or they have made some noise that this policy is not working. What we need to do then is go back and say well, it is not working maybe for that person.

But let us look at the data to see is this an ongoing pattern? Is this a trend? Is this something that we really need to make a change? And if we need to make a change what data will inform whether we make the change that we have made the right change. So trying to pay attention to data. We have – if we have made a change in our admissions policy then are we then getting the types of students that we wanted? Or if we have made a change to our financial aid strategy are we then getting the type of students that we were trying to target.

Interviewer: So in – so policy change, adverse event triggers policy review.

Interviewee: Yes, absolutely.

Interviewer: So you pretty much answered this next question: could you expand on why you identified that data. And I think we have addressed that. But other than assessment data are there other data sets that you are interested in when making policy? Or do you feel like you have covered them all.

Interviewee: Well, I think, when I think of policy, part of our policy because we are a private [TYPE REDACTED] institution, part of our policy is things related to our faith based institution. So there may be data that is different than a public would look at such as feedback from our board or from pastors or from a religious community that we might make changes to, say, our faculty faith statement that faculty complete. Or our areas that how we represent ourselves in terms of our mission alignment. I am trying to come up with a good example of data that we might look at. But it is primarily what we have heard from our students or what we have heard from our constituents. One policy that we struggle with right now is gay marriages. It has been approved so how do we – in our hiring practices what is our policy there and what data do we look at to help us make good decisions. I think that is hard.

Interviewer: I am looking through my notes here. [laughter] I want to just – we have got this question and then the last one. I just want to expand just a little bit if we may. In terms of the data you had referenced information from boards; I am assuming your board of regents, board of trustees.

Interviewee: A board of trustees, yes.

Interviewer: Board of trustees and perhaps commentary from or comments or feedback from pastoral groups or the faith community in general, is there anything else you would want to add to those groups? Additional groups? Folks – so for example, is there any other type of data beyond those that you would consider when making policy?

Interviewee: Well, alumni surveys, parent surveys, you gather data from – you try to gather data from a lot of different places. We are right now again looking at our mission alignment. We align with the [redacted] Church and there are changes in the [TYPE REDACTED] church so we are trying to gather information from a lot of different sources to say what should we do going forward as our aligned church body makes changes. [laughter] How do we make changes? And so we are gathering data from a variety of students, from faculty, from our board, from community, from alumni, from parents, trying to get input from a lot of different folks on what should be our next steps.

Interviewer: So why did you identify all those groups of data? Not necessarily those groups but in terms of the data affiliated with those groups why are you identifying with those in policy?

Interviewee: Because I think it is important that we get input from those folks in making our decision. But also all of those groups are deeply vested in who we are. And so yes, they

are our constituent base and they are both our customers and who is interested in us as an institution. And our board helps us to stay aligned with our mission. That is their whole job.

Interviewer: So – and that is what I was –

Interviewee: Yes, we just do not want policy to ever go against our mission. I mean, we want that alignment with our – who we are as an institution.

Interviewer: That is great. I am going to get that from the transcript because I could not write it down fast enough. [laughter] We are now to the last question. And I will divulge now that this is a qualitative study. So I would like to have – we have got just a few more minutes because I know your schedule is probably things stacked on top of one another.

Interviewee: You are probably close to my last one today. I cannot remember. [laughter]

Interviewer: I just want to have a very brief open ended discussion with you about how you as a professional just in general, now we are going to open the doors here, how do you make decisions? I know this is going to seem a little redundant but I want to un-bracket us now from policy, un-bracket us from strategic planning, and un-bracket us from resources, just how do you make a decision professionally speaking, of course?

Interviewee: That is a good question. I think personally I – there is probably a couple things that I keep in mind. One is I need to make sure there is a decision that needs to be made and that I am the right one to make the decision. I mean, that is very important to determine because people may be saying, "We need to change, we need to change." And I think as an institutional leader you have to step back and say do we really need to change? And if we made a change where would we change? And who would be responsible for the change? Who all would be impacted by the change? So trying not to make decisions. It is OK to spend time in that gray area before you make a call because once you made a decision at this level you do not – it is really tough to go back. You need to be very certain of your answer and certain of all the reasons that you have made it because there will be a lot of questions.

So I think what I tend to do is look at why does this decision need to be made? What is the timing that this decision needs to be made in? What are the – what is the information I need to gather? Who do I need to gather it from? Who all needs to be involved in the decision? So often times if possible I will take it to my dean's council so that they are – can both weigh in

and be aware of what this decision is that needs to be made and help me to make the decision. Definitely keeping the president involved and other vice presidents. Because if I make an, excuse me, a decision to make a major change in a department or something that is going to impact a lot of different people. And they need to understand what the change is and the reason.

Our cabinet is very, very helpful for our – my decision making because I can bounce ideas off of and it is a very congenial group but a good group to challenge you. And I might say I think this change needs to be made. Something as simple as extending a graduation date. We had a conflict with our place where we have graduations. So I said can we extend and graduate five years from now a week later? What would be the impact of that? And so hearing from all these different groups what the impact of that decision would be before I go ahead and say well sure, it does not matter, let us just extend another week. It impacts student life. It impacts housing. It impacts athletics. It could impact a lot of different things: alumni events that maybe were planned and that are backed up against that. So trying to make sure you have everybody informed before you do make a decision. And then probably once you make the decision documenting it, making sure that it is shared, making sure that you have laid out clearly your rationale. That is just crucial so you do not have to make it again.

Interviewer: So it sounds like in the process of this the use of data is integrative?

Interviewee: Sure, yes.

Interviewer: It is not – data does not – I guess my question is does data come in and sit at a point in your decision making process? Is it integrated throughout your process?

Interviewee: I think it is –

Interviewer: Does it come in at the end of the process?

Interviewee: No, it is integrated throughout. I mean, because you are asking for different data at different times. If I am trying to make a decision of faculty line then I am going to be asking for data and then taking that data and sharing it with, as I mentioned, the dean's council to say this seems like our highest need. Is this – do you guys read this data the same way as I do? So yes, I think data is used throughout and different data depending on the decision you are trying to make.

Interviewer: That is the final question that I had. Do you have any questions for me? And we – if you want we can take a couple of moments to debrief and I will turn the recorder off and all that. But are there any questions you have for me in this?

Interviewee: No, I think the categories made sense and the questions make sense and it was good helpful [crosstalk] for me.

Interviewer: Thank you. So – I am glad you got a benefit, too. [laughter] So make sure the – yes, my backup is recording, too. I just wanted to check that. So at this point what I would like to do is conclude the interview. And I am assuming I can send these to your email address for review, is that OK?

Interviewee: Yes.

Interviewer: I am asking for confidentiality.

Interviewee: Yes.

Interviewer: So I will send the full transcript to your email. And if there are any other follow up questions can I communicate via email with you as well?

Interviewee: Mm-hmm.

Interviewer: Great so I will go ahead and end the interview here.

APPENDIX G

REGIONAL UNIVERSITY INTERVIEW TRANSCRIPT

[REGIONAL UNIVERSITY CAO]. So we'll go ahead and start. You signed the informed consent, you both have; do you have any questions?

Interviewee: On the informed consent; no.

Interviewer: Okay wonderful.

Interviewee: It looks like my first question of you was is the first question you're going to ask of me?

Interviewer: Okay well we can go with that, but if you don't mind I think I'll start if that's okay?

Interviewee: Sure.

state

Interviewer: So just – I'm just trying to establish a baseline.

Interviewee: Okay.

Interviewer: When I say the term "assessment data", what types of data come to your mind?

Interviewee: Okay. First and most – first in terms of what comes to my mind is the information about whether students are achieving the intended learning objectives in courses and programs; probably first programs and then courses; so whether students are achieving those learning objectives and that that would be a way to evaluate the quality of academic

programs. And I came to that understanding really as a result of the discussions in higher Ed beginning really probably 30 years ago about the use of assessment. So it was really doing something that was different from testing, it was different from standardized testing. But what we're really looking at often course based or program based information about student learning.

Interviewer: Okay.

Interviewee: Often times locally developed and intentionally selected on the – by the faculty directly involved in those programs. But I think they're also is – there are some other things that can be used as assessment data, which I like to refer to because I think they help to triangulate the assessment data or they also really are to some extent measures direct or indirect of student learning. So those might be things like the CLA test where student's outcomes in terms of positions that they get, getting into graduate school and that kind of stuff.

Interviewer: Okay. So in thinking about assessment data and we will differentiate between assessment data and non-assessment data so we'll do a lot of switching back and forth. But in thinking about assessment data if you as provost had a dashboard of assessment related data that you could use for decision making what data would be on that dashboard and how often would you look at it?

Interviewee: So when you say distinguish between assessment and non-assessment what's your definition or am I using my definition for this?

Interviewer: Let's use your definition for this.

Interviewee: Okay, okay. So what would be on that dashboard – so that the – so I'm looking at it from the institution perspective and so I'm thinking about what is – what a provost would like to know or what happens at the institutional level. So it would be really nice to know basically how our assessment results are tracking over time. So ideally not sure that they're actually there yet but ideally it would be some kinds of measures that we have information on over the years and so we can see how students are doing. It's likely for me

with this many programs as we have that there would have to be some kind of a summary statistic for that. I wouldn't really want or be able to or think that it was appropriate for me to track a lot of individual program level. Let's see a program has five key assessment activities; it's very unlikely that I would – want to look at all five of those measures let's say. But what I want to know for a college whether four of the five main programs in that college are demonstrating continued growth across their designed program objectives; I think that would be good. So for those it would be just a general summary of what's – what's happening and it's not just for me to know but it's also so that other people would know that I was looking at them or that the institution was concerned about them, or that I could talk about the institution and have references to measures of learning.

Interviewer: Okay.

Interviewee: But also it would really be that people also know that somebody is looking at them and that they seem to matter for them, for the administration so to speak. So it would be those general trends on the assessment data but then also some other things about employment rates, some of the more indirect measures of student outcomes or of learning; so employment measures. The things that end up being related are also the number of things like the diversity of the student body or the graduates and how long it takes them to graduate and so forth, which I know are not – is not assessment data, but it also makes sense in terms of the complete look at the program. I think also to have something – thinking about dashboards too is – and those performance measures is if there have been instances where either the assessment data or other things have signaled a problem with a program that that would be highlighted and maybe there would either be more detail or that I would spend some time looking at that particular program. So let's say a program review was done and really highlighted that there's some shrinking enrollments in a particular area almost to the point where the program is too small to continue I'd really want to have those – you know the ones that are in the emergency room; I'd like to have those highlighted.

Interviewer: So in thinking about – we're talking about data here. You mentioned a couple of specific employment enrollment diversity of student body timed to graduation, what about other non-assessment data types? What other data points are you looking at that may not be traditionally assessment related?

Interviewee: Mm-hmm. Well our state really insists that we have certain performance metrics and so we have a number of ones at the institution level but taken – so at the institutional level we do things like the overall time of graduation that probably the credit hours at graduation is something were looking at increasing the number of students in STEM fields so the proportion of students in those were high demand fields. Diversity is a component we're also hoping to improve the outcomes of our students who are coming in with Pell grants and from diverse backgrounds.

Interviewer: Okay. Great, thank you.

Interviewee: I think there's also – at kind of at the university level occasionally we do something like the CLA, that test and then also our surveys that we do on a regular basis. And again some kind of a general summary measure that would allow me to just track whether things are on an upward or downward turn but maybe if we've had trouble, let's say on a certain measure in the past that we track that. So one thing that we're paying attention to right now is what students say about their indebtedness when they leave. So that might be something that we would track, you know, we would identify – this year we're going to really look at that or for the next few years we really need to look at that.

Interviewer: So a couple of follow up questions, one just to clarify CLA Comprehensive Literary Assessment?

Interviewee: What is that? It's not literary – it's –

Unidentified male: Collegiate Learning Assessment.

Interviewee: Yeah, Collegiate Learning Assessment.

Interviewer: Okay, there's a lot of CLA acronyms; I just wanted to make sure I have the right one.

Interviewee: Yeah so sorry; it's the one that has gotten so much national attention; it's an indicator that we're not doing our jobs.

Interviewer: Okay.

Interviewee: Not that it's a bad test I don't think, but we're not doing our jobs.

Interviewer: Forgive me I'm doing an NCATE accreditation right now so CLA – I was slipping back into teacher prep that it's hard to jump tracks sometimes so forgive me. So Collegiate Learning Assessment and then in talking about this other than the state mandated metrics that you're looking at or the fact that it is state mandated are there other reasons you're looking at these data points, are there other data points you would look at that aren't state mandated?

Interviewee: Yeah so we – we had some influence on what these data points are but we have real commitment as we continue to jack up our tuition is to try to help students get access to the courses they want and to get out in a timely fashion. We also don't have a good metric for this but probably will soon about whether they're getting – studying the major that they prefer to be studying. So it really is a sense of responsibility to our students to really make sure that they're able to get the classes they want and graduate in a timely fashion. So it has been one problem here; we've had a real shift of students that are interested in studying STEM fields and they come in and they're prepared and sometimes they're delayed because they can't get into the science class or that science class. They do really well in math so they're kind of ready to go in a lot of areas, but they just don't have the stem background – or we don't have access to the stem courses that they need.

Interviewer: Okay so now we have a nice baseline to work from.

Interviewee: Okay.

Interviewer: What I'd like to do is start bracketing our conversation. We're going to focus in on three areas –

Interviewee: Okay.

Interviewer: The first being strategic planning. Now when we talk about this and the questions just please sort of contextualize them into the strategic planning mindset arena, whatever term you'd like to apply to this. So the first question what types of assessment data do you use, do you see or do you ask for when you are leading the institutional wide strategic planning process?

Interviewee: The assessment data that I see is whatever is offered by people that want to initiate new programs and are seeking funding.

Interviewer: Okay.

Interviewee: Other than that we really don't use assessment data either the – well I shouldn't say that. The direct measures of student learning if they're part of the process, which I don't know if they are, it's happening at the department and college level. Because I do not see those – that level assessment reporting so I don't know whether programs are – feel like their assessment results are good or bad or even what they are. So I would rely on the departments in the Dean's to incorporate those in their planning. I – except for – kind of things at the high end or low end; I'm not sure that that's really happening.

Interviewer: Okay. So I want to just dig a little deeper if I may. You say you don't necessarily look at that, you let the Dean's incorporate that. Why – why do you let them do it or why do you not do it as opposed to "Give me all the data and let me help formulate this".

Interviewee: So in some areas and this goes back to whether this is assessment data or not, in some areas I do look at it. When I've got a measure that I know is pretty standard across so when we look at the number of students in classes or the retention rates or diversity or something like that I can look at that across different departments and I do make strategic decisions, financial decisions especially looking at those data. But when you get beyond

those standard kind of institution level metrics I don't have comparable data. So for me to ask people to send in their assessment reports I would really be looking at apples to oranges type of thing. So it would be – while I'd be really curious about it I would love to read those; it's not going to help me in making an actual decision. That would be something that I would rely on the Dean's to do.

Interviewer: Okay.

Interviewee: That they can look at management versus accounting and make a sensible judgment about what those assessment reports say because I think for us there in a non-standard format to so it's highly dependent on who wrote those reports and that kind of thing.

Interviewer: Okay and so – and forgive me this is going to sound a little redundant but in thinking about strategic planning what other types of data do you look at when you're just leading or participating or doing strategic planning?

Interviewee: So for us our priorities undergraduate education most of our students are undergraduates so a lot of it has to do with those kinds of instructional level kinds of variables. But diversity would be important and we don't – we are not collecting these data in a good fashion right now but I'm hoping eventually we will. It's then have more – eventually to have more information about faculty-student partnerships and research creative activities as well as the faculties own creative activities. So we're not there yet as an institution in terms of collecting that information in a way that – that I could look at. There's one college that does it really well and I could look at their reports and of all the colleges the six colleges that did it that way I would use those, but they don't do it that way. So it's a process of trying to get people to more comparable data across colleges.

Interviewer: Okay. And now I'm kind of wanted to segue way into a process; how do you as provost what's your working process. Let me just read the question verbatim then I can explain it.

Interviewee: Sure.

Interviewer: Could you take me through the working process of how you use all data in your strategic planning process essentially, okay as provost how does data assessment, or non-assessment or other data impact and shape your decisions regarding strategic planning?

Interviewee: I think we have what we call a bottom up process in terms of strategic planning and then it's necessarily influenced by kind of a top down or we kind of meet together. So I would say that the – what we hoped to have in the bottom up planning is that we're pushing people into a situation where they're looking at data, they're collecting it, they're designing studies, they're asking themselves the important questions and letting that percolate up. We do require them to do assessment on academic programs and there are other things that are required for specific discipline. So that's – it comes in that way and then really at the institutional level it's pretty ad hoc at this point in terms of we use standard institutional variables. We have access to courses and quality courses meeting students demand and those kinds of things as top priority so I look at anything related to that that I can get my hands on. But we have not gone and actually kind of closed the loop in any solid way by saying "We have the strategic objective, here's how we're going to assess it or evaluate it." And so those are the data that I would look at to see whether we're meeting that objective. We don't – we're not at that point.

Interviewer: Okay. Is it something you are – it sounds like it's something that you're actively working towards?

Interviewee: You know in some areas it would be in – in the areas where it's easier to get data. I think certainly in our financial planning I think where we allocate resources we're definitely looking at as much data that we can get our hands on. So whether we were looking at bottlenecks or whatever, we're just closely monitoring that as closely as we can about where that money is needed and so forth. Looking at what are the strategic objectives of the university especially with respect to academic programs, we're really looking at data from outside the institution. So what are the needs – you know what does economic development look like in the state, what are the likely needs for graduate level prepared professionals likely to be, what are national trends for institutions like ours and that kind of stuff. So we would – that kind of external focus is something that we would incorporate in the – at the institutional level. And then also when Dean's are bringing forward plans from their colleges they make a justification that includes an environmental scan as well as their own performance on those measures, but there's no standard format. So that they could easily put

something forward without any description of the assessment data for their current programs let's say.

Interviewer: When – if I may follow-up, when Dean's bring forward these plans and you say there's certain things you ask for environmental scans, things of that nature is there a template that you use?

Interviewee: No.

Interviewer: Okay.

Interviewee: And I kind of – well we are going to have a template.

Interviewer: Okay.

Interviewee: We will have a template, and we did have a template. And there is something that talks about the need for the program and there is something that's related to the performance of the current programs, but could somebody enter – you know, submit something without a good environmental scan and a good analysis of their current performance? Yeah.

Interviewer: Okay, okay. Great so we will turn the page on strategic planning.

Interviewee: Unless [ADDITIONAL PARTICIPANT], you have something else –

Interviewer: Yeah I'm sorry. I kind of have been looking over here – I haven't even engaged with you [ADDITIONAL PARTICIPANT]so is there anything you would like to add to any of those questions?

Unidentified male: The only thing is that we're a pretty robust senior exit survey and sometimes [NAME REDACTED] asked me to summarize that data if we're looking at a department and it is satisfaction data rather than performance data but it is specific to advising quality of instruction access to classes. She often asks what are the graduates reporting about access to classes and that major; so that was the only other piece I was thinking of.

Interviewer: Okay. Thank you [ADDITIONAL PARTICIPANT]and it's going to sound a little formal when I do this because I want to put some audio queues in just because there's two males and one female talking so the transcribing there's some differentiations so [ADDITIONAL PARTICIPANT], thank you. Okay. Now we kind of started to hit on this a little bit but I'd like to shift our conversation into the world of resource allocation, which I know in this state has not really been a topic of consideration for some time and we have so much money flowing everywhere. But we – but in all seriousness we've seen some tremendous cuts nationwide and resource allocation has had to be – I would presume a huge part of what you as a provost has spent some time on. So I'd like to explore with you and your perspectives how assessment data and resource allocation interact at the provost level. So when developing and finalizing resource allocation or sometimes budget plans, depending on the terminology, how does assessment data shape your decision making process and ultimately the final budget plan?

Interviewee: I would say in the – in the level of cuts that [OUR UNIVERSITY] took over three years, in the past three years there really was not much planning and so forth. People – we just cut wherever we could. We did not cut any tenured faculty lines or any tenured faculty or tenured track faculty. And beyond that there really – and we cut a ton of staff; there really was not an opportunity to look much beyond where the possibilities were and so forth. We did take a strategic priority preserving students access to classes; so that was – that was a strategic priority. But did we do anything to look at the quality of those programs? I think actually we did do – we did do that. We had a number of things that we were going to close due to budget constraints and really closed a number of them because they were probably of low quality and also that they were low enrolled. I mean it turned out they brought forward the programs saying they're low quality and they also had low enrollment.

Now was it their formal assessment effort that they reported on? Probably not would be my guess. So in that sense in the cutting scenario there might have been a correlation with that but it was not anything – it was not a formal process where people bring forward their assessment results and we decide what programs to cut. It was much more opportunistic; it

had to be in some ways. But then it also was – had a lot of constraints, we're not going to cut any faculty and then the ones where there were low enrollments were going to be the easiest to cut.

Interviewer: So field triage basically?

Interviewee: Um-hmm. Let's see. So now we're engaged in two processes. One is what our next kind of new programs that begins with an environmental scan and then internal scan, but what our strengths are. And then we are seeking some money for those programs. And then we're also – we have not had an internal program review process and so we have a number of faculty who are working on trying to design something and [ADDITIONAL PARTICIPANT]is helping them too in terms of trying to – I'm hoping that there will be some assessment results in those program reviews. But there will be – I think [ADDITIONAL PARTICIPANT]would tell me that they'll be some resistance to that happening. But I'm hoping that we can get beyond that because obviously if a program review process is going to tell you about which programs to invest in or to de-invest in it should include some evidence of student's outcomes in those programs.

Interviewer: Now let's shift it to just data in general, is there a specific type of data assessment or otherwise, I'm changing this question a little bit just on how we're migrating. Is there a specific type of data that impacts the budget process more than others?

Interviewee: Enrollment, student enrollment.

Interviewer: Okay and is there a specific type of just assessment data that would impact it – the resource process more than others?

Interviewee: Accreditation that could affect it.

Interviewer: Okay. Is there any other specific data points that you look at, maybe we've talked about them and you want to reiterate or others that you haven't mentioned yet, are

there specific types of data or data points that you consider when developing or finalizing the budget?

Interviewee: So you know as I mentioned – so we've reduced our state funding by half. We have more students then we've had so obviously getting students into their classes is a big deal. So I look at a lot of things related to student enrollment. So for example, we look at pass rates in classes like how long students are taking to get through different kinds of classes, where they – were there more students trying to enroll then we actually have. All of our faculty, almost every department has looked at it's curriculum to see if there ways that it could be streamlined in some fashion so that they could do – we have more students often times with fewer resources and so it's really those and then it's also this kind of ongoing monitoring of students, you know and their satisfaction as they leave or after the graduation and so forth. We don't do a lot with faculty in terms of kind of getting their impressions of things; I'm not sure this idea that we're rated as one of the best universities to work for, that's a big deal for us but we don't do those series ourselves, the Chronicle does it for us. And I think this year we've got diversity initiatives so we're really looking pretty carefully at diversity.

Interviewer: Okay.

Interviewee: That kind of thing among our faculty especially but also our staff to some extent.

Interviewer: Okay so if anything else comes to mind feel free to just add it in –

Interviewee: So I guess one of the other things is we do kind of do benchmarking with especially other State institutions just to be sure that we're not sinking below an acceptable threshold. We don't consider really any other in-state institutions, a comparable institution; we do look at some of the ratios and that kind of thing.

Interviewer: Like faculty to student ratio?

Interviewee: Yeah.

Interviewer: Okay.

Interviewee: The – we watch their program development, we watch their per student funding and that kind of thing.

Interviewee: Their transfer rates.

Interviewer: So what I'd like to do next is just – are you familiar with the different levels of assessment? Their – Linda Susky's hierarchy of assessment by chance?

Interviewee: So remind me what those are.

Interviewer: It's a student learning outcomes course program and institutional –

Interviewee: Okay.

Interviewer: So in thinking about those incomes on a scale of extensively, moderately, somewhat or minimally could you please tell me as we go through each one what you would rate the usage of those kinds of data in resource allocation? So how extensively, moderately, somewhat or minimally would you say you utilized student learning outcomes in resource allocation decisions?

Interviewee: So me as provost it would really be at the program in university level. I wouldn't look at course outcomes, that would really be something that the department chair and Dean's should be doing.

Interviewer: So minimally more or less?

Interviewee: Minimally – well I wouldn't look at them at all. I wouldn't see them at all. The only way that I would see them would be if we had a course where a lot of people were failing and it was a big road block for students I might you know, only in the most problematic situations would I ever see course level assessment.

Interviewer: Okay. So that – so was that for – was that for student learning outcomes or course level outcomes and I can give you some operational definitions if that would be helpful just at how I'm using it in a study.

Interviewee: So yeah, so go ahead and do that because I've been using actually student learning outcomes as almost synonymous with course and program level.

Interviewer: And most people do for the purposes of this study I've been taking Susky's hierarchy and adapting it so student learning outcomes are literally just their grades. What was the GPA and those kind of things?

Interviewee: Okay, okay.

Interviewer: Student learning outcomes may also relate to we want our students to be well versed in X, Y and Z.

Interviewee: What would you call that?

Interviewer: That would be called a student learning outcome. A course level outcome is what are the overall course objectives and are we meeting those course objectives. So for example we want to – you mentioned stem fields so a course level objective might be we offer 15 sections of core stem education and we have greater than 95% enrollment consistently quarter semester to quarter semester. I believe [REGIONAL UNIVERSITY]

you're on a quarter system; correct? So it would be every quarter; so think about it student learning outcomes talks about the student; course level outcomes talk about the courses; programs of course now we're starting to aggregate up into does the program meet it's objectives? We want to produce high quality stem graduates exceeding 15% of our student body every year starting in five years. And then of course institutional level outcomes would be almost verbatim out of your strategic plan. So sort of using those definitions –

Interviewee: So it's really the program level and institutional level that I would look at.

Interviewer: Okay so –

Interviewee: Kind of looking more at individual students or individual courses.

Interviewer: Okay so student and course not at all unless, of course, there was a problem – something extremely problematic, the emergency room analogy you used which I am going to steal that just so you know. And then program would you say extensively or moderately?

Interviewee: Okay so that's do I use that in strategic planning –

Interviewer: No in resource allocations.

Interviewee: Resource allocation. I don't have good data so I don't use it. I do consider a lot when we have accreditation specialized accreditation because I do get useful information there, but I don't get useful information in the other –

Interviewer: At the program level?

Interviewee: Yeah and part of that I think is intentional because people who are afraid of what the provost might do, you know, does with that. So it really – so I don't see very much of it and so I don't use it.

Interviewer: Okay.

Interviewee: And I try not to do too much using anecdotal stuff.

Interviewer: Okay. And then how about institutional outcomes?

Interviewee: Some – so I do try and use those whenever I can.

Interviewer: So would you say moderately to extensively?

Interviewee: Mm-hmm.

Interviewer: Okay. So are there other data that you would use extensively, let's say extensively to moderately and just thinking in the typical course of your day if such a typical day exists for a provost what data would you use extensively?

Interviewee: I think the results of national studies.

Interviewer: Okay.

Interviewee: Maybe how [REGIONAL UNIVERSITY] compares to falls on some national metrics.

Interviewer: Okay, great. This next question might be a little sensitive –

Interviewee: I guess maybe awards would be something else –

Interviewer: Awards and –

Interviewee: Yeah, yeah like some kind awards that either the faculty or the university is getting or something.

Interviewer: So recognition awards rather than extramural okay. And those would be extensively?

Interviewee: Yeah, yeah.

Interviewer: Okay. Now – and I want to preface this next question obviously this is going to be a little sensitive so please take it in the spirit of just research; it's nothing personal. But could you walk me through an example, if one exists or hypothetical if not on how you have used data to make a resource allocation decision?

Interviewee: So we have shifting interests in STEM fields; so in – when we developed budgets last time we kind of carved some extra money off the top and I looked at the number of – the ratios of students in the major and student credit hours to faculty and made a portion of the allocation contingent on that.

Interviewer: Okay.

Interviewee: Of new resources to the college contingent on that.

Interviewer: Okay. So it was addressing a strategic priority?

Interviewee: Mm-hmm.

Interviewer: Okay.

Interviewee: Which is this – we're – we wanted to give access to the students in the state to a perfect education.

Interviewer: Okay. Thank you. That's the question, of all my questions that's the one I'm afraid to ask in case you're wondering.

Interviewee: Yeah. So maybe another one that's not quite as you know, clearly linked to you know statistics that we normally look at is sometimes in developing new programs we're looking at national statistics – statistics in the region. So we looked at the fields of energy and the demands for professionals in that area and the challenges that those face, energy poses for our society but especially for our environment and so looking at those national data points as well as two conferences that we convened we decided to build the program there. To look at the related things looking at the number of students that are surviving in This state in normal kind of K-12 education being developed in new program and – I forget but anybody – students – teachers that are in certified. But learning about education in an alternative settings is what it is.

Interviewer: Okay.

Interviewee: So those are kind of external data about the region they're driving are internal decision making and we are kind of the key foundation of our mission statement is to build on our strengths to serve the needs of the state; so those are two examples.

Interviewer: Okay great.

Interviewee: [ADDITIONAL PARTICIPANT]do you have any other ideas?

Interviewer: Yeah I don't want to exclude and feel free to jump in at any time. It's kind of nice; I haven't gotten to do a two person interview yet. This is a real – real privilege.

Interviewee: And I don't want to put him on the spot either but just in case there's a whole dimension that sometimes he does a lot of things that I'm not really that connected to so there might be something that.

[ADDITIONAL PARTICIPANT]: Well you delegate some decisions that depend on data such as we have emergency bottleneck funding that we – [NAME REDACTED] requires data demonstrating. The department has already stretched in all the ways they can and so we use FTE for SCH guidelines, we use dollar costs per SCH. We use bottleneck – waitlist data, historical – because you don't want to award bad planning. You want to award people really reaching and stretching on their own so there's several data points we use there at – at her request in making those decisions and we have to justify them that way. We do graduate placement; I mean we informally – you know, chemistry very high graduate placement rate, informal knowledge about proven quality I think she should keep in mind.

Interviewer: Okay thank you [ADDITIONAL PARTICIPANT]. So we are on the home stretch.

Interviewee: Okay cool.

Interviewer: And again I will not be able to say it enough; I know your time is precious so I really appreciate you taking the time to do this.

Interviewee: Sure.

Interviewer: For this next to the last section we're going to shift into policy and this can be institutional policy, program policy, student policy, any and all kinds of policies that are utilized by the university, operational, legal, you name it. And I'm looking at this because there's been such dramatic changes in higher Ed as of late that I'm curious as to explore how assessment data and then other kinds of data might impact you and your decisions as provost relating to your work in policy – policy creation, policy revision, policy, policy, policy. So to start as the provost at what level do you get involved with the development or revision of policies, institutional wide policies we'll start there?

Interviewee: Really I am one of the people that kind of approves the development of a policy; so people might come to me and say "We think we need a new policy" and I would say, "Yeah that's a good idea why don't you start the" – and we have this policy development process.

Interviewer: Okay.

Interviewee: And then I sit on the President's Cabinet which vets the policies – kind of is the final vetting of that.

Interviewer: Okay and then – so the President's Cabinet is the official approving body?

Interviewee: Mm-hmm.

Interviewer: Okay.

Interviewee: Unless we're talking about academic policies and then it's the faculty senate usually.

Interviewer: Okay. Okay. So do you believe that assessment data drives policy creation?

Interviewee: If it has to do with accreditation because the accreditors are pretty clear about their expectations surrounding the assessment. I would say that the process of assessment dictates that, in other words we're more likely to have a policy that says we need a process for assessment rather than those people that have good assessment results will have to do one thing or the other.

Interviewer: Okay.

Interviewee: So it's not the assessment outcomes. I think there is an idea this – among our – I'm not exactly sure this is what you're looking for but this program review process that we're developing really came about as a result of wanting to know how we're making decisions about programs that we want to eliminate so we put a bunch of them on the chopping block a few years ago when we though we'd have to make another 30% cut. And people got really scared about "Why do things end up on that list" and so that's when our faculty started developing this list of what they think should be on a list to make those decisions. And so it's a list of – it's going to be shorter now but it probably has 40 – I mean every kind of data point that you can imagine that people that are new to this would think about and then we'll very likely put into place a program review policy that relies on – that programs come forward with those kinds of summaries of their quality or the number of students, how fast they graduate and so forth. That will be the biggest thing that we'll do this year along those regard – in that regard.

Interviewer: Okay wonderful. In thinking about institutional wide policies if you could see any type of assessment data, I mean the skies the limit and setting that policy or in working on creating or establishing or advising what data – as provost what data would you like to see?

Interviewee: So the skies the limit huh?

Interviewer: Yeah.

Interviewee: So I would like to have reactions from students six months into their first position saying how they're doing, how they're [REGIONAL UNIVERSITY] education did

or did not help them and what kind of feedback they're getting from their employers and what's the next step for them and did they get the job that they wanted and why or why not and something like that. That would be – if I could get anything that's what I would like.

Interviewer: Okay. Now we have to shift from the skies the limit to the sky is just right up there, what data do you – do you currently use that you have access to? I'm assuming that you don't have access to six month post employer data or employment related data?

Interviewee: Not exactly along – I do have something like that – access to something like that but it's not those specific questions.

Interviewer: Yeah. So –

Interviewee: And my – the ideal day would come from an interview. Face to face with an employee going to visit them not a survey that they get in an e-mail, anyway – so what's the next question? I'm sorry.

Interviewer: No that's okay; I've got another research project on the side and you just spoke volumes to it. What data do you currently see and do you use in terms of policy?

Interviewee: Well I think that right now our program review – so a lot of things having to do with that kind of program are really pretty loose. We do have assessment policies and so forth and [ADDITIONAL PARTICIPANT]has that information in terms of people's reports on his web page. I see affirmative action kinds of reports about the demographics of our work force. I see a lot of general student access to classes and progress towards degrees and that kind of stuff.

Interviewer: Okay.

Interviewee: I see these surveys that are done on a regular basis of our students, I see when we do the NSSE – we do that periodically; I see that, those National Survey of Student Engagement.

Interviewer: Yeah. So I'd like to go back to the skies the limit question for just a moment and kind of exploring here if I can; why did you say that data? I'm just curious why – let's say the incoming governor gives you a blank check to do this kind of assessment work. You can now have a caring [REGIONAL UNIVERSITY] employee go face to face with graduates six months post, why would you want to see that data?

Interviewee: I think it would be the richest because the students experience is going to be the richest of it and anybody else that would be involved. I trust our students to – you know they tend to be pretty highly motivated and maybe as self reflective as you can find among students that age. And I think this idea of whether universities are really preparing their graduates for life after the university is a question that – that I think we need to pay a lot of attention to because I think that there's a disconnect there. And I'd like to learn more about that disconnect.

Interviewer: Okay. [ADDITIONAL PARTICIPANT]do you have anything that you'd like to add into that –

[ADDITIONAL PARTICIPANT]: To the skies the limit question?

Interviewer: Yeah.

[ADDITIONAL PARTICIPANT]: Okay so –

Interviewee: I also think that the students would reflect the – the extent to which, you know if their employers are unhappy with them or they're saying "Really you need to go and take special class because you don't have" – I think that they would tell us that. It's the not 100%, but I think that there would be a level at which maybe they would be complaining like "You know I had this major and I should have had this class" so.

Interviewer: Okay.

[ADDITIONAL PARTICIPANT]: Sort of that anecdotally like there was a guy who was head of R & D at [MAJOR LOCAL MANUFACTURER] said, “If we need something invented I always go to your engineering graduates rather than the [LOCAL RESEARCH UNIVERSITY] because your folks are more creative. If it’s math I go to the [LOCAL RESEARCH UNIVERSITY]”. So that’s the kind of thing you can find out with that kind of study.

Interviewer: Okay.

Interviewee: Yeah and so [ADDITIONAL PARTICIPANT]makes a really good point to which is you want to know what you’re doing really well too; you want to know what they say. “This I’m doing fine and thank you so much for helping me out in that regard”. Because we’re making tough choices all the time but what we have to cut out are the same type of what we’re going to build.

Interviewer: Okay. So we – we’ve talked about the assessment data you’d like to see, we’ve talked about the non-assessment you’d like to see and little bit about why each of those data sets fit there. This is the last question and I’m – this kind of hits to the heart of the whole study so –

Interviewee: Okay.

Interviewer: In as much time as we have left –

Interviewee: Yeah sorry and I keep looking at the clock because I’m supposed to actually meet somebody downtown at 5:00 so I’ll try and be very succinct –

Interviewer: No that's – this is – I will take all data and I love analyzing data it's my nature. So I'd just like to take this last question the overall process that you as provost, how do you make a decision? I know that's a very open ended question but you know formally – I'll read it, what key factors seem to be present in all your decisions? What – as a generic example how do you use data to make decisions? How do make decisions, what goes through your mind at any given time that you just – do you have a check list, a process that you follow; how does that work for you?

Interviewee: No I'm not like the check list kind of person.

Interviewer: Okay.

Interviewee: I rely – to the extent that I can get good data I run ideas by people. The opinions I trust and sometimes people like those opinions I don't trust; I'm just kind of curious what the reaction is going to be. So I do a lot of consultation within the formal chain as well as informal chain, you know people that I know that maybe work in other institutions or similar processes or people here that are involved in the process but aren't a decision maker; I might check in with them. So I do a lot of collecting of information and then I – I – a lot of times rely on my intuition and I've been doing this work so long that I think it's served me pretty well. And then I run everything through a filter how it's going to go – go over and so to speak and what the – what steps need to be taken in terms of implementation and decision or maybe final level of review or something like that. And try not to make too many mistakes in that process. Like I told this guy today earlier I said, "I don't want this to take six months; if you do it right you can do it in a month".

Interviewer: I like that approach. So with that I want to conclude our interview and then I'll give you a brief de-brief if you're interested. [ADDITIONAL PARTICIPANT]thank you very much for your time, Dr. [NAME REDACTED] thank you so much.

Interviewee: Sure thank you.

Interviewer: This has been a huge undertaking as any dissertation is; so – but it also speaks to my passion so I really appreciate you sharing some of your time with me today.

Interviewee: Great.

Interviewer: And with that I will turn off the recorder—