



## AUTHOR

Joshua Travis Brown, Ph.D.  
University of Virginia

## Abstract

Higher education accountability is a field characterized by complexity. Prior frameworks grounded in psychometrics, economics, and history fall short in explaining the persistence and composition of its complexity. This article employs organizational theory to identify the multiple conflicting approaches of higher education accountability and explain their persistence. The seven identified fields function as specialized silos, each with a unique logic and approach toward accountability, they are: assessment, accreditation, institutional research, institutional effectiveness, educational evaluation, educational measurement, and higher education public policy. The seven accountability silos are systematized into a single conceptual model using an institutional logics framework. This article provides an alternative to the silo-based approach and argues that future accountability efforts must integrate by examining the knowledge domains of other silos to successfully navigate the changing environment of higher education. The implications of an integrated accountability approach are considered for five topic areas: data, the professions, structure, responsibility, and transparency.

# The Seven Silos of Accountability in Higher Education: Systematizing Multiple Logics and Fields

*Higher education does not lack accountability. Rather it lacks enough of the proper kind, and is burdened with too much of an unproductive kind.*  
(Graham, Lyman, & Trox, 1995, p.7)

Since the late 20th century, colleges and universities have had to respond to persistent calls from multiple social sectors about the expansion of accountability in American higher education. The increased reporting measures are the result of multiple contextual factors that have influenced the system of higher education. In part, the substantial increases in the cost of obtaining a college education have catalyzed the American public to question the value of a postsecondary degree and to call for greater transparency regarding college outcomes (Blumentstyk, 2015; Carey 2015; Webber & Boehmer, 2008). Additionally, many sectors of modern society, such as government, insurance, healthcare, and banking, have been subject to rising levels of standards and standardization as the primary form of regulation, a phenomenon higher education has been unable to avoid (Brunsson & Jacobsson, 2000; Busch, 2011; Lampland & Star, 2009). Finally, lawmakers have increasingly emphasized that resource allocation be awarded based on the performance of the organization, necessitating that the college or university give an account of its educational output (Dougherty et al., 2016; Doyle, McLendon, & Hearn, 2010). The many drivers of accountability have resulted in a complex system of higher education accountability that is comprised many disparate fields and approaches.

## CORRESPONDENCE

*Email*  
jtb8n@virginia.edu

The compounded impact of decades of expanded accountability policies and measures is that universities annually collect multiple types of data at multiple levels in the organization to satisfy multiple regulatory agencies. Administrators and researchers coordinating these efforts within universities have collectively organized into multiple professional fields that advance “best practices” within their respective areas (Banta, Lund, Black, & Oblander,

1996). Seven identified fields function as specialized silos, each with a unique rationality and approach toward matters of higher education accountability, they are: *assessment*, *accreditation*, *institutional research*, *institutional effectiveness*, *educational evaluation*, *educational measurement*, and *higher education public policy*. Within the literature, these seven disparate silos lack engagement with one another and possess conflicting definitions of foundational terms. Thus, an important challenge that remains is comprehending both the complex social context and the many disparate approaches to higher education accountability. In this vein, the aim of this article is to develop a conceptual model within which the persistently different accountability approaches may be understood. Moreover, I argue that future accountability efforts must integrate by examining the knowledge domains of other silos in order to successfully navigate the changing environment of higher education.

**I argue that future accountability efforts must integrate by examining the knowledge domains of other silos in order to successfully navigate the changing environment of higher education.**

This article purports that the differential approaches to higher education accountability can be systematically understood through the lens of institutional logics. Institutional logics is a framework from organizational theory used to understand the responses of actors—organizations and individuals—which operate in complex social environments (Friedland & Alford, 1991). The framework gives consideration to both the internal aspects of organizations, as well as the external forces by which they may be influenced (Thornton, 2004; Thornton & Ocasio, 1999). By employing an institutional logics framework to examine the literature on higher education accountability, I situate the seven accountability silos within the broader context of the market, state, and profession. To achieve this, I first identify the multiple accountability silos by their respective knowledge domains and membership associations. Then, I argue that differences between the multiple accountability silos persist as a result of unique responses to the broader social institutions in which they are embedded (e.g. market, state, and profession). Following this, I map the complex social context of higher education accountability and thereby systematize the disparate silos into a single conceptual model. Finally, I emphasize that effective accountability responses to a changing social context must examine multiple logics and multiple fields.

This article makes three notable contributions to the higher education accountability literature. First, by mapping across the seven fields of higher education accountability, it extends prior research that mapped *within* individual fields of accountability, such as assessment (Ewell, 2009) and institutional research (Volkwein, 1999). Additionally, the mapping of the multiple accountability silos advances the discourse beyond the dominant focus on histories (e.g. how we arrived here) and dichotomies (e.g. research-practice, internal-external, summative-formative, inputs-outputs, and accountability-improvement) that have been traditionally used to describe the complexity of higher education accountability but fall short of explaining its continued persistence and broader composition (Gaston, 2014; Marchand & Stoner, 2012; Reichard, 2012; Suskie, 2015; Upcraft & Schuh, 2002; Zumeta & Kinne, 2011). Finally, employing institutional logics to systematize the field encourages the discourse to focus on integration by giving consideration to the sources of rationality and the disparate responses of the individual accountability silos to broader social institutions.

## Overview of the Field

As new policies and regulatory agencies formed over time, universities established offices, practices, and routines within the organization to give an account to various external groups. The university personnel tasked with the oversight of different facets of organizational accountability gradually organized into collective membership associations that provided individuals the opportunity to make sense of their various practices and routines (Volkwein, 2008). Membership associations at the state, regional, and national levels were essential in establishing the boundaries of a field given that they maintained and perpetuated distinct norms, networks, vocabularies, and practices (Reichard, 2012). Membership associations are an important characteristic for distinguishing the disparate fields of accountability given that a field can be identified by locating participants who cohere around a common purpose and carry out exercises that cut across organizations (Thornton, Ocasio, & Lounsbury, 2012). Each association maintains various types of publications in order to communicate with its members, maintain established norms, advance best practices, and sustain the existence of its knowledge domain. Furthermore, each field possesses characteristics that distinguish it from

the other approaches, which include: a unique discourse, scholarly or professional journals, a handbook of research, and a published history of its development.

When the knowledge domain of the membership associations and its scholarly literature are comparatively examined, they may be used to identify the various approaches to higher education accountability. Upon examining these, I identified seven fields of higher education accountability: *assessment, accreditation, institutional research, institutional effectiveness, educational measurement, educational evaluation, and higher education public policy*. Within a specific college or university, these fields inform the differential organization of individuals, groups, teams, committees, or entire offices. The membership associations affiliated with each accountability field are composed of the many like-minded university employees who have collectively organized around a specific set of shared values, practices, and content (see Table 1). For example, the publications, emphases, and overall accountability approaches by the Association for Education Finance and Policy (AEFP), a policy research organization, are notably different than those of the Southern Associations of Colleges and Schools Commission on Colleges (SACSCOC), a regional accrediting organization. The grouping of the various associations highlight the differences in the seven approaches toward higher education accountability.

Table 1  
*Affiliated Accountability Associations*

Accountability Silo	Affiliated Associations
Assessment	National Institute for Learning Outcomes Assessment (NILOA) Assoc. for the Assessment of Learning in Higher Education (AAHLE) Association of American Colleges & Universities (AAC&U)
Accreditation*	Regional accreditation: Southern Association of Colleges and Schools (SACS) Disciplinary accreditation: American Bar Association (ABA)
Institutional Research	Association for Institutional Research (AIR) Society for College and University Planning (SCUP) National Association of College & University Business Officers (NACUBO)
Institutional Effectiveness	Association for Higher Education Effectiveness (AHEE)
Education Measurement	National Council on Measurement in Education (NCME)
Evaluation	American Evaluation Association (AEA)
Higher Education Public Policy	Association for Education Finance and Policy (AEFP) Association for Public Policy Analysis & Management (APPAM) Council on Public Policy and Higher Education (CPPHE-ASHE)

\*For a fuller list of accreditation-related associations, please see *Higher education accreditation: How it's changing, why it must*, by P.L. Gaston, p. 205–222. Copyright 2014 by Sterling, VA: Stylus.

Not only do differences exist between the seven fields of higher education accountability, but they function as individualistic silos. Within the literature, many of the fields do not engage one another or give consideration to the other forms of addressing accountability in higher education. For example, the field of assessment engages accreditation on matters of student learning outcomes, but takes issue with the use of enrollments and alumni salaries as a meaningful outcome, one that is primarily used in the field of higher education public policy (Baum, May, & Payea, 2013; Gross & Berry, 2016; Schneider, 2016). Furthermore, solutions to ideological tensions or the improvement of practices are predominantly limited to within-silo perspectives. For example, the field of assessment ardently advocates that members strive to develop and strengthen a “culture of assessment” within individual organizations, rather than give consideration as to how present approaches might be integrated with other accountability silos (Fuller, 2013; Fuller, Skidmore, Bustamante, & Holzweiss, 2016; Ndoye & Parker, 2010). The entrenchment and persistence is due, in part, to individual fields of higher education accountability drawing their logics from the broader social institutions that they engage—the market, state, and profession. These same social institutions are those which have called for the further accountability of higher education. Therefore, to further understand the disparate responses of the multiple accountability silos and their persistent differences, one must examine the broader social institutions in which they are embedded.

**The social institutions of the market, state, and profession are those to which higher education must give an “account” of its use of resources and achievement of outcomes.**

## External Influences on the Field

Prior accountability research has made significant advancements with regard to developing instruments (Shavelson, 2010), articulating histories (Ewell, 2011; Reichard, 2012), establishing best practices (Banta, Lund, Black, & Oblander, 1996), and employing novel methodologies (Doyle, McLendon, & Hearn, 2010; Murnane & Willett, 2010). However, these approaches are unable to examine the social processes and complex social context of the higher education accountability sector. I propose that organizational theory provides scholars with the necessary conceptual tools to understand the complex environment in which various actors—organizations and individuals—function.

More specifically, the institutional logics framework organizes the social embeddedness of actors in order to examine how they are influenced by their social context. The institutional logics perspective assumes that society is not of a singular logic; rather it is comprised of multiple broad social institutions, such as the market, state, profession, family, and religion (Friedland & Alford, 1991; Thornton, 2004). Moreover, each social institution possesses a specific logic and provides the actors embedded within them with unique ways to order their practices, vocabularies, values, and identities (Thornton & Ocasio, 2008). The institutional logics perspective permits researchers to identify the *source* of differences in practices, discourses, and identities that exist between fields by taking the broader social institutions into consideration. Given that the distinct logic of one social institution (e.g. market) conflicts with the logic of another social institution (e.g. profession), actors must consistently address tensions between the multiple institutions in which they are embedded. For example, *College Scorecard* emphasizes alumni salaries (e.g. market logic) as valid outcome data for a university, whereas the AAC&U VALUE rubrics emphasize student learning (e.g. professional logic) as valid outcome data for a university. Subject to both of these accountability approaches, a given university must navigate the tensions between the two logics.

Researchers and practitioners of higher education accountability must identify the respective social institutions in which they are embedded if they are to successfully navigate the extant tensions between the various logics. Higher education scholars have continually referred to the same trio of social institutions that influence the postsecondary landscape: the market, state, and profession (Clark, 1983; Slaughter & Rhoades, 2004; Rhoades & Torres, 2006). Joseph Burke (2005) identified this triad of social institutions as those which most influenced the interests, pressures, and priorities of higher education accountability and deemed it the “accountability triangle.” The social institutions of the market, state, and profession are those to which higher education must give an “account” of its use of resources and achievement of outcomes. To further understand the role of these social institutions within the higher education accountability context, a typology for each social institution is briefly discussed below. The typologies are a compilation of the select elements and categories of each social institution, as found within the literature.

### Market

The institution of the market refers to the social sphere where the exchanges of goods and services occur between buyers and sellers (Scott & Marshall, 2009). The norms of the market center on self-interest and seek to benefit individual actors, whereas its strategy emphasizes the efficiency of transactions (Thornton, 2004). As discussed in the higher education accountability literature, the root metaphor of the market logic emphasizes *performance* (see Table 2). Researchers focus on changes in “performance funding” across states and organizational types. “Performance targets” are monitored via data dashboards using “key performance indicators” (KPIs) such as transfer rates, enrollment data, cost-per ratios, grant funding, and research output, among many others (Massy, 2016). Broader “institutional performance” is comparatively examined via organizational benchmark data such as graduation rates, alumni salaries, and endowment performance. Market norms are distinct from, and often at odds with, the norms of the profession (Stone, 2002). Scholars have devoted significant attention to examining the impact of the market on the profession of higher education (Slaughter & Rhoades, 2004). The market’s expanding influence has brought about substantive changes in the financing of a college degree (Doyle, 2006; Doyle, McLendon,

***College Scorecard* emphasizes alumni salaries (e.g. market logic) as valid outcome data for a university, whereas the AAC&U VALUE rubrics emphasize student learning (e.g. professional logic) as valid outcome data for a university. Subject to both of these accountability approaches, a given university must navigate the tensions between the two logics.**

& Hearn, 2010), the affordability of higher education (Archibald & Feldman, 2011), and the acquisition of resources (Berman, 2012).

Table 2  
Institutional Typologies for Market, State & Profession

Key Characteristics	Market	State	Profession
Root metaphor	Performance	Compliance	Learning
Basis of norms*	Self interest	Citizenship in nation	Membership in guild
Basis of strategy*	Increase efficiency of transactions	Increase community good	Increase reputation and quality of craft
Organizational form*	Marketplace	Legal bureaucracy	Network organization
Data focus	Data that illustrates outputs, growth, or return on investment	Data that illustrates adherence to policies and standards	Data that illustrates student learning or development
Data treatment	Analysis of efficiency or causality	Presentation of frequency data or narrative argument	Examination of pre/post change or formative/summative

\*Denotes a categorical element adapted from *Markets from culture: Institutional logics and organizational decisions in higher education publishing* by P.H. Thornton, p.44–45. Copyright 2004 by Stanford, CA: Stanford University Press.

## State

The social institution of the state refers to the collective set of agencies (e.g. armed forces, civil service, judiciary, etc.) that possess the authority to govern a society (Scott & Marshall, 2009). The norms of the state center on citizenship within one's nation, while its form is organized around the concept of legal bureaucracy (Thornton, 2004). As discussed in the higher education accountability literature, the root metaphor of the state logic emphasizes *compliance*. The state logic focuses on the “disclosure” of information to highlight conformity with “regulations” and “standards” established by the government or their respective monitoring agencies (Brunsson & Jacobsson, 2000). To determine whether the compliance of standards has been achieved, federal agencies rely on two types of approaches. First, agencies oversee the annual collection of quantitative data such as the Integrated Postsecondary Education Data System (IPEDS), Internal Revenue Service (IRS) Form 990, and the Clery Act, to name a few. Second, the agencies coordinate the systematic review of legal narratives, which make the case for compliance or adherence to standards, such as state authorizations for operation (Ewell, Boeke, & Zis, 2010). This dual approach reinforces the legal bureaucratic form that organizes the social sphere as well as the fields and organizations drawing from its logic.

## Profession

The social institution of the profession refers to a type of work orientation or work organization for a specific interest group. Entrance into or membership in the group is monitored by a code of conduct, practice, or values (Scott & Marshall, 2009). As discussed in the higher education accountability literature, the root metaphor of the professional logic of higher education emphasizes *learning*. The professional logic focuses on measuring aspects related to the learning of students, including the improvement of learning. Examining learning often takes the form of educational measurement or educational assessment. A measurement approach focuses on employing psychometric techniques to quantify learning, knowledge, or cognitive development (Shavelson, 2010), whereas an assessment approach focuses on examining “student learning outcomes” or “essential learning outcomes” (Arum, Roksa, & Cook, 2016, p. 4). Here, educators are encouraged to utilize “high impact educational practices” and employ “learning outcomes assessments” to examine their influence. Historically, the role of the profession was to establish the quality of craft and safeguard the quality from the influence of the market (Thornton et al., 2012). However, scholars have noted that contemporary professions (education, architecture, accounting, etc.) increasingly must confront the expanding influence of the market logic into the

**The term [institutional effectiveness] addresses the systematic examination of the planning and decision making in multiple areas across the university (administrative, educational, etc.) and at multiple levels in order to determine its effectiveness as an organization.**

professional domain (Hermanowicz, 2011; Thornton, Jones, & Kury 2005). Therefore, future higher education accountability efforts that use measures of learning must acknowledge their limited application when responding to an expanding market logic.

The influence of the social institutions of the market, state, and profession has garnered the attention of scholars of higher education (Clark, 1983; Slaughter & Rhoades, 2004) and more specifically, higher education accountability (Burke, 2005). This triad of social institutions is the source of logics, order, and rationality for the accountability fields and universities embedded within them. Because the embeddedness of fields and organizations is not mutually exclusive, they are often influenced by multiple logics. Therefore, understanding the differential approaches of higher education accountability is dependent upon identifying the dominant logic or combinations of logics upon which or to which they primarily respond.

## Mapping Multiple Logics and Fields

Each of the seven accountability silos is a distinct field supported by a vast literature and a large number of scholars and practitioners in membership associations. Given that limited engagement occurs across the disparate silos, higher education possesses a complex system of accountability that warrants further clarity. This section seeks to converge the seven identified silos and the broader social institutions into a single conceptual model. The differential sources of rationality that ultimately influence the varied approaches to higher education accountability are highlighted by mapping the complex social context.

### Assessment

Assessment is the systematic collection, analysis, and translation of evidence on a given topic or outcome (Astin & Antonio, 2012; Seclosky & Denison, 2012; Suskie, 2004). Assessment gives priority to student learning, whether the process is led by administrators or faculty, or focused on curricular or co-curricular characteristics of the university. Scholars have specifically noted that assessment is distinct from the other higher education accountability fields of accreditation, measurement, and evaluation (Gaston, 2014; Seclosky & Denison, 2012; Suskie, 2015). The norms of the profession center on collectively established codes such as “Principles of Good Practice for Assessing Student Learning” or “Seven Principles for Good Practice in Undergraduate Education” (Banta, Lund, Black, & Oblander, 1996; Chickering & Gamson, 1987; Upcraft & Schuh, 1996). The field of assessment is predominantly comprised of administrators tasked with the oversight of measuring student learning outcomes across the curriculum of academic disciplines within individual colleges and universities. Recent works encourage faculty to become more involved in the processes of establishing student learning outcomes (Arum, Roksa, & Cook, 2016). Efforts also emphasize the assessment of student learning outcomes across student affairs and co-curricular areas of the university (Bresciani, Gardner, & Hickmont, 2010).

The field of assessment draws its distinct rationality from the *professional logic* whose root metaphor emphasizes learning (see Figure 1). The broader social institution of the profession guides the responses the field of assessment adopts toward higher education accountability. Data are collected on individual assignments and examined through rubrics in order to determine the extent of student learning. Some choose to showcase student learning through e-portfolios to highlight the array of development or competencies across multiple knowledge domains. Others employ the use of course-embedded techniques in order to strengthen the authenticity of the results. Furthermore, the aim of assessment is often stated to be for purposes of improving teaching and learning, as well as for accountability (Ewell, 2009). The applied and real-world nature of the collected data usually limits its generalizability beyond the context of the specific university. These organized responses by the field of assessment address questions of accountability that are of interest to the profession in an applied manner, and do not address accountability paradigms of interest to the state (e.g. compliance) or market (e.g. performance), as will be shown with some of the remaining silos.

**As a field, institutional effectiveness can be described as combining the processes of accreditation (state and profession) with an added emphasis on organizational performance (market).**

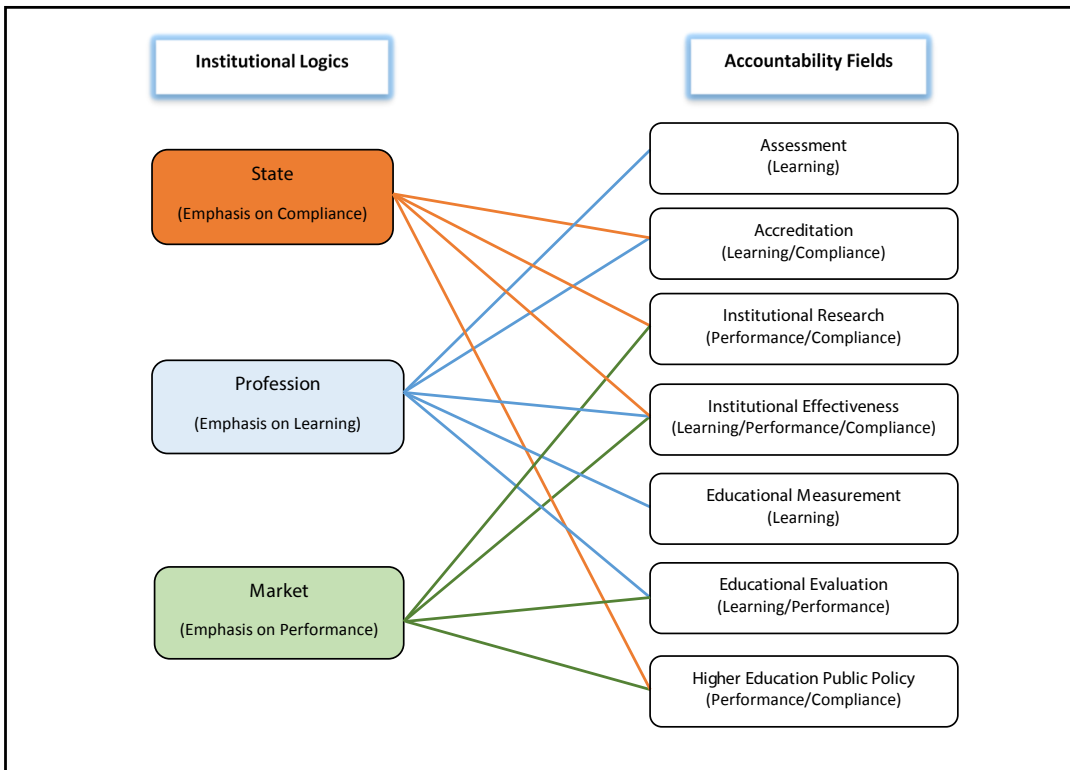


Figure 1. A Map of the Social Embeddedness of Higher Education Accountability

## Accreditation

Accreditation is the peer review process established to examine the educational quality of colleges and universities and to ensure their adherence to standards of practice (Bogue & Hall, 2003; Eaton, 2012; Gaston, 2014). More formally it is, “a process by which an institution of postsecondary education evaluates its educational activities, in whole or in part, and seeks an independent judgement to confirm that it is substantially achieving its objectives and is generally equal in quality to comparable institutions of postsecondary education” (Young, Chambers, & Kells, 1983, p. 21). Three types of accreditors comprise the U.S. system of accreditation: regional accreditors accredit entire colleges, specialized accreditors accredit specific academic programs, and national accreditors accredit entire colleges that are not eligible for regional accreditation (Suskie, 2015). While there are many accrediting agencies in each of the three types, they are all “owned and operated” by the colleges and universities which comprise their membership (Suskie, 2015).

The field of accreditation draws its distinct rationality from a combination of two logics—the *professional logic* (learning) and the *state logic* (compliance). The dual combination of these logics informs the response the field of accreditation maintains toward higher education accountability. The self-regulatory processes of accreditation originated as a form of professional accountability upheld by the ethic of peer review (Gaston, 2014). In constructing arguments for accrediting bodies, universities must provide evidence to argue their compliance with the standards of the accrediting bodies that function as a stand-in for the federal government (Ewell, 2011). The process resembles the practice of peer-review journals whereby the publication of knowledge is governed via the review of evidence by one’s peers within the profession. However, declines in public trust across many professions in society have also negatively impacted the perceived legitimacy of the self-regulatory processes of accreditation (Blumenstyk, 2015; Ewell, 2008). Over time, the process has evolved into an organized “federal regulation of academic practices” (Newell, 2012, p. 36).

**A persistent challenge for the field of higher education public policy has been to connect market-focused and state-focused variables with learning-focused variables more robust than graduation rates.**

## Institutional Research

**Given that the field of accreditation is organized around the professional system of peer review, it will face increased legitimacy challenges should the societal distrust and decline continue.**

The field of institutional research is comprised of persons and groups whose function within universities is to conduct research in order to “provide information which supports institutional planning, policy formation, and decision making” (Saupe, 1990, p. 1). The “typical” functions of institutional research address four areas within colleges and universities: (a) external and internal reporting, (b) planning and special projects, (c) data management and technical support, and (d) research and development (Volkwein, Liu, & Woodell, 2012). Data to support these four areas are predominantly queried from existing sources of information within the organization. For example, most data reporting requirements for the Integrated Postsecondary Educational Data System (IPEDS) or U.S. News & World Report rankings are fulfilled by institutional research offices or personnel.

The field of institutional research draws its distinct rationality from a combination of two logics—the state logic (compliance) and the market logic (performance). The two logics influence the response the field of institutional research has toward higher education accountability, one that has been characterized as “organizational intelligence” (Terenzini, 1993). The various practices of organizational intelligence aim to provide service and support to faculty members, administrators, and coordinating groups (Stecklein, 1971). Recent advancements in technology and data analysis have enabled institutional researchers to further support university planning and decision making through the use of data mining, predictive analytics, business analytics, and data dashboards (McLaughlin, Howard, & Jones-White, 2012). These approaches permit institutional researchers to examine organizational data in innovative ways that offer the potential of cross-silo efforts toward higher education accountability.

## Institutional Effectiveness

Institutional effectiveness is a “multifaceted construct with a myriad of meanings and interpretations” (Alfred, 2011, p. 104). Of the seven silos, it is the most widely misunderstood within the literature given that the term describes a university process, office, and field and is frequently conflated with assessment (Head, 2012). Institutional effectiveness originated in the mid-1980s when the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) regional accrediting body implemented the term to describe a new emphasis within its stated policies (Ewell, 2012). The notion of assessment had become too contentious and policy makers wanted a “broader and more acceptable” term (Rogers, 1997). Thus, the notion was distinctively different from assessment given that “institutional effectiveness” was to examine all aspects of the university, whereas the field of assessment had limited itself to examining student learning outcomes and development. The term addresses the systematic examination of the planning and decision making in multiple areas across the university (administrative, educational, etc.) and at multiple levels in order to determine its effectiveness as an organization. While different from assessment, the new term strengthened the relationship between assessment and accreditation. By the end of the 1980s, each of the six major accrediting bodies had adopted similar language and practices to evaluate the institutional effectiveness of colleges and universities (Ewell, 2011).

The field of institutional effectiveness draws its unique rationality from all three institutional logics—the professional logic (learning), state logic (compliance), and market logic (performance). Of the seven accountability silos, it is the only one to draw from all three social institutions to inform its response toward higher education accountability. What differentiates institutional effectiveness from the silos of accreditation or institutional research is that it draws its rationality from each of the three social institutions, whereas they draw from two. As a field, institutional effectiveness can be described as combining the processes of accreditation (state and profession) with an added emphasis on organizational performance (market). Although it may be one of the more nebulous silos, institutional effectiveness is identified herein as a field unto itself because over time its meaning has expanded from a policy in a single agency to one that possesses a membership association, professional journal, and published history of its development.



## Educational Measurement

Measurement focuses on employing psychometric theories and principles to collect student-level educational data using test instruments. The gathering of data based on test items or judgements from examinees enables researchers to make decisions based on inferences from the data (Secolsky & Denison, 2012). Although college entrance exams, such as the ACT or SAT instruments, have received significant scrutiny as of late, they are the most common test instrument used in higher education (Lemann, 2000; Soares, 2011). Other areas of the university that frequently employ the testing approaches of educational measurement are skills assessments for incoming students, major field tests, and career aptitude tests. The majority of these tests are standardized instruments that have been created using an array of psychometric properties that include: classical test theory, item response theory, generalizability theory, reliability, validity, scaling, norming, and statistical modeling to name a few. In Shavelson's (2010) four eras of learning assessment, the origins of standardized testing in the American university (1900-1933) precede the era of external accountability (1979-present). Therefore, it is important to note that the uses of educational measurement and testing have changed over time with the changing social context of higher education.

The field of educational measurement draws its distinct rationality from the professional logic, whose root metaphor emphasizes learning. The broader social institution of the profession guides the response that the field of educational measurement adopts toward higher education accountability. While assessment and education measurement both share the singular professional logic with a focus on learning, the two are distinct fields with different approaches to accountability. Many of the instruments used in the field of education measurement are external learning assessments (e.g. standardized). The instruments are predominantly indirect measures given to students at a single point in time (e.g. SAT, ACT, MFAT, etc.), although some standardized instruments (e.g. College Learning Assessment) have been issued at two points in time or longitudinally in order to address change in student performance (Shavelson, 2010). On the other hand, the field of assessment tends to emphasize internal learning assessments—direct measures to examine the improvement of student learning outcomes.

## Educational Evaluation

The *Evaluation Thesaurus* defines evaluation as, “the process of determining the merit, worth, or value of something, or the product of that process.” (Scriven, 1991). Educational evaluation addresses the fidelity of educational programs, or more specifically, asks whether what was proposed and what was delivered were in alignment. Focal data for evaluation exist at the program level, whereas the focal data for the field of educational measurement resides at the student level. Grayson (2012) identifies three types of educational evaluation: formative, summative, and developmental. Formative evaluation focuses on improvement through constructive feedback to program implementers and clients. Summative evaluation emphasizes the measurement of inputs and outcomes in order to determine performance and impact. Developmental evaluation focuses on identifying the effects of innovation and testing hypotheses in situations of uncertainty and complexity (Patton, 2011). An important difference between evaluation and the field of assessment is that evaluation uses information to make an informed judgement regarding performance and efficiency (Suskie, 2004). Process measures provide data that address program quantity (e.g. how much did we do?) and outcome measures provide data that address program impact (e.g. how successfully did we do it?) (Friedman, 2007).

The field of educational evaluation draws its distinct rationality from a combination of two logics—the professional logic (learning) and the market logic (performance). The two logics influence the response the field of educational evaluation has toward higher education accountability. Efficiency is a fundamental aspect of educational evaluation that focuses on the examination of the various costs and resources (e.g. money, facilities, people, etc.) a given program expends in relation to its value or benefits (Boulmetis & Dutwin, 2005). In addition to examining the efficiency of a program, evaluators also address its impact on participants and “return on investment” for the organization (Kirkpatrick, 1994).

**While accrediting bodies and individual universities may object to these market- and state-oriented approaches to accountability, the societal distrust in the professions creates a dilemma with regard to maintaining past practices predominantly informed by the professional logic of learning.**

The emphasis of evaluators on the relationship between resources and program outcomes highlights the two logics that influence the field—the market logic and professional logic.

### Higher Education Public Policy

The field of higher education public policy examines the relationship between resources and education-related policies. Researchers are interested in the ways in which resources are both generated and distributed across systems and how these processes relate in various ways to local, state, and federal policies on education. The field of higher education public policy excels at producing timely research on specific education policies such as performance-based funding (Bouge & Johnson, 2010; Hillman, Tandberg, & Gross, 2014) and federal financial aid (Gross & Berry, 2016). The field also examines the extent to which specific educational policies migrate or diffuse across districts, organizations, states, and regions over time (Dougherty, Natow, Bork, Jones, & Vega, 2013; Doyle, 2006; Doyle, McLendon, & Hearn, 2010). Focal data for the field of higher education public policy are rarely individual case studies of organizations; rather, employed data are more commonly large scale data sets that enable researchers to examine the broader impact of education policies and accountability phenomena.

The field of higher education public policy draws its distinct rationality from a combination of two logics—the market logic (performance) and the state logic (compliance). The two logics influence the response the field of higher education public policy has toward higher education accountability. The dominant paradigm of the field is supported by frameworks from economics and public policy, whereas the dominant paradigm of the field of educational measurement is supported by psychometric theories. Consequently, the variables of interest to researchers in this field also differ from other accountability silos as they examine alumni earnings data, graduation rates, financial aid, resource allocation, resource acquisition, and transfer rates among many others. A persistent challenge for the field of higher education public policy has been to connect market-focused and state-focused variables with learning-focused variables more robust than graduation rates.

### Synthesis & Evaluation of the Fields

The review of the higher education accountability literature across each of the seven fields highlights three notable characteristics: ambiguity of terms, engagement with other fields, and absent linkages. First, within the literature, scholars repeatedly acknowledged difficulty in consistent definitions of germane terms such as assessment, accountability, and institutional effectiveness (Alfred, 2011; Head, 2012; Wall, Hursch, & Rodgers, 2016; Zumeta, 2011). At times, definitions explicitly conflicted with one another: assessment is comprised of measurement and evaluation (Astin & Antonio, 2012) versus assessment is distinct from measurement and evaluation (Suskie, 2004). Some noted that the rapidly changing context of higher education impacts the identity and vocabulary of the field because it is continually responding to new and changing conditions within the regulatory and resource environments (Krist, Jones, & Thompson, 2012). Arguably, the persistent confusion is not necessarily due to a dynamic or changing social context but rather a lack of understanding of the social composition of the context and its influence upon those fields and organizations embedded within it. Mapping the field addresses the ambiguity of terms by establishing typologies for the entire sector—both the social institutions and the individual accountability silos. Furthermore, mapping the field shifts the discourse to focus on sources of rationality and the disparate responses of the individual fields of higher education accountability.

A second notable characteristic within the literature addresses the degree of engagement one field has with that of another. In rare instances, the knowledge domains of fields engage with one another, whereas in most instances there was little engagement at all. In reviewing these occurrences, interaction between silos can be explained based on commonalities or differences in logics. The limited number of fields that engage one another are those which share a root logic or combination of root logics: (a) assessment and education measurement (profession) and (b) institutional research and higher education public policy (state and market). These silos share institutional logics and

**Applying an integrated paradigm may provide insights as to how fields may respond proactively, rather than reactively, to market and state pressures to govern the profession.**

thus share a common understanding, vocabulary, and rationality about the context of higher education accountability.

A final notable characteristic pertains to the lack of linkages between social institutions and specific accountability silos. As discussed above, the knowledge domains of some silos possessed common root logics, or “linkages.” However, some accountability silos do not share common linkages between social institutions. In part, these missing linkages explain the extant tensions between the accountability silos. The field of accreditation, which is missing a link to the market logic, has recently been challenged with alternative methods of accountability that emphasize performance, return on investment, and alumni salaries (Fain, 2016; Stratford, 2015). The field of assessment, which is missing links to the state and market, must continually defend itself as being a legitimate form of reviewing higher education outcomes. Higher education public policy, which is missing the link to the profession, is efficient with its outcomes but has been unable to provide evidence of learning in ways that appease assessment professionals. A few select scholars have attempted to address topics related to absent linkages (Wall et al., 2014) but further work is necessary to integrate the disparate accountability approaches.

### Discussion & Future Implications

The present state of higher education has been one characterized by persistent change. While prior works have discussed how individual silos of accountability have evolved over time as a result of the changing context, the works have not given consideration as to how the broader changes might impact multiple silos (Gaston, 2014; Ewell, 2008; Suskie, 2015; Volkwein, 2008). This final section provides an alternative to the silo-based emphasis toward higher education accountability. It advocates that future efforts must integrate by engaging the knowledge domains of other silos in order to successfully navigate the changing social context. It addresses five important topics: data, the professions, structure, responsibility, and transparency.

Data is an important topic that pertains to each of the seven silos. In this vein, it is worth considering how the various fields of higher education accountability respond as new data types emerge. Recent education research has started to engage the development of analytics, more commonly referred to as “big data.” The scope of this type of data addresses learning analytics (Baker & Corbett, 2014), business analytics, predictive analytics (Denley, 2014), action analytics (Milliron, Malcolm, & Kil, 2014), and social analytics (De Laat & Prinsen, 2014), among others. Traditional approaches to assessment have focused on the use of rubrics and e-portfolios as a form of examining the extent of student learning. In contrast, learning analytics provide researchers with new forms of learner data that are both broad and deep, thereby potentially enriching assessment processes (Thille et al., 2014). Applying an integrated paradigm to the data may make it possible to connect learning analytics (logic of learning) with business or predictive analytics (logic of performance) in innovative ways. Furthermore, the broad and deep nature of analytics introduces possibilities to aggregate and disaggregate data in ways that may benefit multiple silos with a single type of data.

A second notable topic to consider is the increasing societal distrust and decline of the professions (Ewell, 2008; Thornton, Jones, & Kury 2005). Given that the field of accreditation is organized around the professional system of peer review, it will face increased legitimacy challenges should the societal distrust and decline continue. More recently, alternatives to hold universities accountable have focused on market- and state-oriented solutions. The required annual reporting of annual alumni salary data to gauge “return on investment” asserts a market based form of accountability. In contrast, the establishment of the United States Education Dashboard by the Department of Education to generate comparative organizational metrics asserts a state-based form of accountability. While accrediting bodies and individual universities may object to these market- and state-oriented approaches to accountability, the societal distrust in the professions creates a dilemma with regard to maintaining past practices predominantly informed by the professional logic of learning. Applying an integrated paradigm may provide insights as to how fields may respond proactively, rather than reactively, to market and state pressures to govern the profession.

**In an effort to further reduce costs, attempts to structure the system of higher education accountability should occur beyond individual universities and give consideration to redundancies across silos. As we aggregate data, is it also possible to aggregate accountability systems?**

**Whether an organization chooses a centralized, decentralized, or other approach to assigning responsibility for accountability mandates, senior administrators must also give consideration to how the broader seven silos will influence university decisions, as well as the changing context of higher education.**

Third, given the multiple approaches to higher education accountability and limited financial resources for universities, the structure of offices and personnel fulfilling accountability requirements within a university should also be considered. Individual universities should consider exploring areas of redundancy and duplication of labor with regard to fulfilling accountability mandates. The alignment of offices, committees, employees, reports and data queries could assist with reducing “administrative bloat” and associated organizational costs (Blumenstyk, 2015; Kirk, 2014). In a recent study, an elite research university calculated that its cost of complying with accountability mandates totaled \$146 million annually, or approximately \$11,000 per student (Woodhouse, 2015). Many policy makers vehemently criticized the study, but the university asserted that its broader purpose in conducting the research was to emphasize that matters of compliance costs and efficiencies have seldom been part of the national accountability discourse (Moran, 2015). In an effort to further reduce costs, attempts to structure the system of higher education accountability should occur beyond individual universities and give consideration to redundancies across silos. As we aggregate data, is it also possible to aggregate accountability systems? These broader initiatives to identify redundancy within and across fields could begin to identify commonalities in structures, division of labor, and cost containment.

Similarly, a fourth important topic to consider is that of responsibility. Specifically, with such disparate accountability approaches within the university, who represents the organization with regard to accountability? The notion of accountability and its respective practices impact a variety of employees within individual colleges and universities. A centralized approach might appoint a senior administrator to oversee all accountability efforts for the university in a similar manner that a chief information officer (CIO) represents the university on matters of information technology or a chief financial officer (CFO) represents the university on matters of finance and budgeting. In contrast, a decentralized approach might distribute the responsibility to fulfill accountability mandates to the respective university offices such that the assessment office addresses student learning outcomes, institutional research fulfills data mandates for the Integrated Postsecondary Educational Data System (IPEDS), campus safety addresses Clery Act compliance, and an associate provost handles matters pertaining to regional accreditation, to name a few. Whether an organization chooses a centralized, decentralized, or other approach to assigning responsibility for accountability mandates, senior administrators must also give consideration to how the broader seven silos will influence university decisions, as well as the changing context of higher education.

A final topic of importance is that of transparency. A significant portion of the public scrutiny regarding higher education, and the field of accreditation more specifically, pertains to its “black box” nature (Gaston, 2014). From the public vantage point, there is a degree of uncertainty about exactly what happens inside a college or university regarding its resource allocation, decision making, bureaucratic procedures, and value-added processes, among other operations. Two immediate areas of increased transparency should address financial data and processes. In a market context, protecting one’s financial data or delaying its release provides the opportunity to maintain a sustained competitive advantage over other organizations. With many universities competing for financial resources, it benefits a college or university to conceal its data, particularly its financial data. Present federal accountability processes for non-profit universities conceal their financial data for nearly three years before being made publicly available (IRS Form 990). In contrast, present federal accountability processes for for-profit universities require them to make the same financial data publicly available on a quarterly basis (Form 10K). Given that both postsecondary organizational types are funded using public subsidies from federal student financial aid (FAFSA), the transparency time delay for the use of taxpayer monies should be significantly reduced. Equalizing the transparency requirements for these two organizational types will help higher education researchers more effectively examine the behavior of universities in a market context before the data are obsolete. It will also provide a skeptical public with relevant and timely information about how universities utilize the public resources with which they are entrusted.

Just as the availability of financial data should improve, the processes of higher education accountability also require improved transparency. The field of accreditation

has recently been scrutinized for maintaining opaque peer review processes as its primary approach to certifying individual colleges and universities (Blumenstyk, 2015; Suskie, 2015). In order to maintain its established legitimacy, the field of accreditation must give consideration as to how it will address the logics of the three broader social institutions (market, state, profession) in a transparent manner. In a comparative case, peer review journals—who share the same professional “peer review” value as the field of accreditation—responded to similar scrutiny by refining internal processes and establishing metrics to make such processes more transparent and understood by their host associations and members (ASA, 2016). What metrics can be made available about accrediting agencies that would assuage a skeptical public? Identifying relevant metrics and making those transparent may serve as an initial first step for accrediting agencies or other accountability silos attempting to address the changing context of higher education.

## Conclusion

Twenty years ago Graham, Lyman, and Trow (1995) argued that the American system of higher education was not short in approaches to accountability. Rather, they claimed that higher education “lacks enough of the proper kind, and is burdened with too much of an unproductive kind” (p. 7). The multiple approaches, or silos, of higher education accountability have persisted for decades, resulting in increased administrative costs, compounded policies, and redundant practices (Blumenstyk, 2015; Kirk, 2014; Moran, 2015). Prior research grounded in psychometrics, economics, and history has attempted to explain the complexity of higher education accountability (Gaston, 2014; Marchand & Stoner, 2012; Reichard, 2012; Zumeta & Kinne, 2011). However, these frameworks have been unable to explain both the existence of multiple approaches, as well their continued persistence. Rather, I argue that we could more fully understand both the complexity of the environment and the processes of higher education accountability by employing organizational theory. Using an institutional logics framework, the seven accountability silos are systematized into a single conceptual model, which provides actors with a new paradigm for transforming the sector—one that suggests that strategies of change must examine multiple fields and multiple logics.

The model presented in this article systematizes the complexity by identifying the multiple silos of higher education accountability and their broader forces. It offers a new paradigm, and therefore new possibilities, for thinking about the future transformation of the sector. Informed by the systematized model, future changes to the sector of higher education accountability should adopt a three-fold focus on engagement, consolidation, and elimination. First, engagement across multiple accountability silos must occur through means such as scholarly discourse, practitioner interaction, and agency coordination, among others. Engagement across multiple silos will be a challenge given that the established norms, values, and cultures of individual silos have existed for decades. Solutions to ideological tensions must move past the within-silo paradigms and consider the accountability discourses occurring in other fields if the sector is to begin to identify a “proper kind” of accountability. This article provided examples of how the silo of assessment might advance beyond strengthening organizational “cultures of assessment” or how the silo of higher education public policy might consider improved measures of learning beyond graduation or GPA. Scholars across multiple fields might take the lead in transforming the sector by establishing strategic collaborations that yield joint professional meetings, policy reports, special journal issues, or “new directions” volumes of research. Without a commitment to initiate engagement and discourse across the multiple silos the transformation of the sector will be severely limited, if not impossible.

While engagement addresses the discourse between actors in different silos, consolidation addresses the unification of content between different silos. Efforts to integrate the processes, policies, and practices of disparate accountability silos will ultimately highlight redundancies in the system. Policymakers and practitioners must give consideration as to how data predominantly used in one field may also be used to further inform questions of accountability in other fields. As greater numbers of postsecondary organizations engage in market-based practices to ensure organizational sustainability,

**The model presented in this article systematizes the complexity by identifying the multiple silos of higher education accountability and their broader forces. It offers a new paradigm, and therefore new possibilities, for thinking about the future transformation of the sector.**

the accountability mechanisms must correspondingly change to sufficiently examine such practices. Present accrediting processes, which are established on peer review norms, must further incorporate market-oriented approaches of evaluation. For example, accreditation teams could be provided with standardized IPEDS data dashboards that highlight changes in key variables since the previous on-site review ten years prior. Consolidating practices in data collection or reporting would further reduce administrative costs at the organizational level. However, given the scope of consolidation that is necessary, redundancies must also be examined at multiple levels beyond individual colleges and universities (e.g. federal, regional, and state levels).

**What remains crucial is the principle this article explains—deriving responses to address the changing social context of higher education must examine multiple logics and multiple fields. The silo of accreditation will be unable to maintain its legitimacy within society if it cannot sufficiently engage the logics of the market, state, and profession.**

Finally, efforts to integrate the accountability silos need to call attention to characteristics of the sector that warrant elimination, particularly the “unproductive kind” which continue to burden colleges and universities (Graham, Lyman & Trow, 1995). Consolidation focuses on retaining the effective attributes of the accountability system that must remain, whereas elimination focuses on removing the ineffective attributes of the system. Efforts in elimination must predominantly occur at federal, state and regional levels, where many accountability agencies reside. For example, policy makers and researchers should be permitted to examine “accreditation effectiveness” in similar ways that the regional accrediting agencies monitor “institutional effectiveness” of organizations. A group of researchers representing multiple fields (e.g. assessment, evaluation, and higher education public policy) will examine the silo of accreditation in novel ways, particularly if tasked with examining strategies of elimination. These strategies—engagement, consolidation, and elimination—are necessary to transform an accountability system characterized by complexity.

Addressing the future of higher education accountability amidst a changing societal context is not limited to the topics (e.g. data, the professions, structure, responsibility, and transparency) and examples discussed herein. A limitless number of matters will surface, many of which cannot be foreseen. What remains crucial is the principle this article explains—deriving responses to address the changing social context of higher education must examine multiple logics and multiple fields. The silo of accreditation will be unable to maintain its legitimacy within society if it cannot sufficiently engage the logics of the market, state, and profession. Similarly, the silo of assessment will make few advancements in its practice or methodology if it cannot sufficiently engage across other silos to examine the practices of those fields. Is it possible to advance beyond the “best practices” of an individual field to “best practices” of accountability that promote integration? By looking at multiple logics and the multiple practices across fields, scholars and practitioners can address gaps in ideology, apply novel methodologies, improve efficiencies, and establish innovative approaches in a rapidly changing context.

#### ***AUTHOR’S NOTE:***

I would like to acknowledge the valuable feedback from Josipa Roksa, Kate Drezek McConnell, Megan Juelfs-Swanson, Michele Darling, Betsy Ackerson, Lauren Germain, Tom Butler, Brandon Moore, and George Cornelius. I am indebted to the RPA editor and reviewers for encouraging me to sharpen and extend my arguments. Any remaining errors or omissions are solely my own.

## References

- Alfred, R. L. (2011). The future of institutional effectiveness. *New Directions for Community Colleges*, 153, 103–113.
- Archibald, R. B., & Feldman, D. H. (2011). *Why does college cost so much?* New York, NY: Oxford University Press.
- Arum, R., Roksa, J., & Cook, C. (2016). Defining and assessing learning in higher education. In R. Arum, J. Roksa & A. Cook (Eds.), *Improving quality in American higher education: Learning outcomes and assessments for the 21st century*. San Francisco, CA: Jossey-Bass.
- Astin, A. W., & Antonio, A. I. (2012). *Assessment for excellence: The philosophy and practice of assessment and evaluation in higher education*, (2nd ed.). New York, NY: Rowman & Littlefield Publishers, Inc.
- Baker, R. S., & Corbett, A. T. (2014). Assessment of robust learning with educational data mining. *Research & Practice in Assessment*, 9(2), 38–50.
- Banta, T. W., Lund, J. P., Black, K. E., & Oblander, F. W. (1996). *Assessment in practice: Putting principles to work on college campuses*. San Francisco, CA: Jossey-Bass.
- Baum, S., Ma, J., & Payea, K. (2013). *Education pays 2013: The benefits of higher education for individuals and society*. New York, NY: The College Board.
- Berman, E. P. (2012). *Creating the market university: How academic science became an economic engine*. Princeton, NJ: Princeton University Press.
- Blumenstyk, G. (2015). *American higher education in crisis? What everyone needs to know*. New York, NY: Oxford University Press.
- Bogue, E. G., & Hall, K. B. (2003). *Quality and accountability in higher education: Improving policy, enhancing performance*. Westport, CT: Praeger.
- Bogue, E. G., & Johnson, B. D. (2010). Performance incentives and public college accountability in the United States: A quarter century policy audit. *Higher Education Management and Policy*, 22(2), 9–30.
- Boulmetis, J., & Dutwin, P. (2005). *The ABCs of evaluation: Timeless techniques for program and project managers* (2nd ed.). San Francisco, CA: Jossey-Bass.
- Bresciani, M. J., Gardner, M. M., & Hickmott, J. (2010). *Demonstrating student success: A practical guide to outcomes-based assessment of learning and development in student affairs*. Sterling, VA: Stylus.
- Brunsson, N., & Jacobsson, B. (2000). *A world of standards*. New York, NY: Oxford University Press.
- Burke, J. C. (2005). The many faces of accountability. In J. C. Burke (Ed.), *Achieving accountability in higher education: Balancing public, academic, and market demands*. San Francisco, CA: Jossey-Bass.
- Busch, L. (2011). *Standards: Recipes for reality*. Cambridge, MA: The MIT Press.
- Carey, K. (2015). *The end of college: Creating the future of learning and the university of everywhere*. New York, NY: Riverhead Books.
- Clark, B. R. (1983). *The higher education system: Academic organization in cross-national perspective*. Berkeley, CA: University of California Press.
- Chickering, A. W., & Gamson, Z. F. (1987, March). Seven principles for good practice in undergraduate education. *AAHE Bulletin*, 39(7), 3–7.
- De Laat, M., & Prinsen, F. R. (2014). Social learning analytics for higher education. *Research & Practice in Assessment*, 9(2), 51–60.
- Denley, T. (2014). How predictive analytics and choice architecture can improve student success. *Research & Practice in Assessment*, 9(2), 61–69.
- Dougherty, K. J., Natow, R. S., Bork, R. H., Jones, S. M., & Vega, B. E. (2013). Accounting for higher education accountability: Political origins of state performance funding for higher education. *Teachers College Record*, 115, 1–50.
- Dougherty, K. J., Jones, S. M., Lahr, H., Natow, R. S., Pheatt, L., & Reddy, V. (2016). *Performance funding for higher education*. Baltimore, MD: The Johns Hopkins University Press.
- Doyle, W. R. (2006). The adoption of merit-based student grant programs: An event history analysis. *Educational Evaluation and Policy Analysis*, 28(3), 259–285.

- Doyle, W. R., McLendon, M. K., & Hearn, J.C. (2010). The adoption of prepaid tuition and savings plans in the American states: An event history analysis. *Research in Higher Education*, *51*, 659–686.
- Eaton, J. (2012). *An overview of U.S. accreditation*. Washington, DC: Council for Higher Education Accreditation.
- Ewell, P. T. (2008). *U.S. accreditation and the future of quality assurance*. Washington, D.C.: Council for Higher Education Accreditation.
- Ewell, P. T. (2009, November). *Assessment, accountability & improvement: Revisiting the tension*. (NILOA Occasional Paper No. 1). Urbana, IL: University of Illinois and Indiana University, National Institute for Learning Outcomes Assessment.
- Ewell, P. T. (2011). Accountability and institutional effectiveness in the community college. *New Directions for Community Colleges*, *153*, 23–36.
- Ewell, P. T. (2012, July/August). From the states: Learning and accreditation: The elites push back. *Assessment Update*, *24*(4), 10–11.
- Ewell, P. T., Boeke, M., & Zis, S. (2010). *State uses of accreditation: Results of a fifty state inventory*. (CHEA Occasional Paper September 2010). Boulder, CO: National Center for Higher Education Management Systems.
- Fain, P. (2016, June 21). Scorecard for accreditors. *Inside Higher Ed*.
- Friedland, R., & Alford, A. (1991). Bringing society back in: Symbols, practices, and institutional contradictions. In W. W. Powell & P. J. DiMaggio (Eds.), *The new institutionalism in organizational analysis* (pp. 232–263). Chicago, IL: University of Chicago Press.
- Friedman, M. (2007). *Trying hard is not good enough: How to produce measurable improvements for customers and communities*. Bloomington, IN: Trafford Publishing.
- Fuller, M. B. (2013). An empirical study of cultures of assessment in higher education. *Educational Leadership Review*, *13*(1), 21–28.
- Fuller, M. B., Skidmore, S. T., Bustamante, R. M., & Holzweiss, P. C. (2016). Empirically exploring higher education cultures of assessment. *The Review of Higher Education*, *39*(3), 395–429.
- Gaston, P. L. (2014). *Higher education accreditation: How it's changing, why it must*. Stirling, VA: Stylus.
- Graham, P. Lyman, R. W., & Trow, M. (1995). Accountability of colleges and universities: An essay. In *The Accountability Study*. New York: Trustees of Columbia University.
- Grayson, T. E. (2012). Program evaluation in higher education. In C. Secolsky & D. B. Denison (Eds.), *Handbook on measurement, assessment, and evaluation in higher education*. New York, NY: Routledge.
- Gross, J. P. K., & Berry, M. S. (2016). The relationship between state policy levers and student mobility. *Research in Higher Education*, *57*, 1–27.
- Head, R. B. (2011). The evolution of institutional effectiveness in the community college. *New Directions for Community Colleges*, *153*, 5–11.
- Hermanowicz, J. C. (2011). Anomie in the American academic profession. In J. C. Hermanowicz (Ed.), *The American academic profession: Transformation in contemporary higher education* (pp. 216–237). Baltimore, MD: The Johns Hopkins University Press.
- Hillman, N. W., Tandberg, D. A., & Gross, J. P. K. (2014). Performance funding in higher education: Do financial incentives impact college completion? *The Journal of Higher Education*, *85*(6), 826–857.
- Kirk, A. F. (2014, May 19). Think college costs too much? Thank the government. *The Chronicle of Higher Education*.
- Kirkpatrick, D. L. (1994). *Evaluating training programs*. San Francisco, CA: Berrett-Koehler.
- Knight, W.E., Moore, M. E., & Coperthwaite, C. A. (1997). Institutional research: Knowledge, skills, and perceptions of effectiveness. *Research in Higher Education*, *38*, 419–433.
- Krist, P. S., Jones, E. A., & Thompson, K. (2012). Accreditation and the changing role of the institutional researcher. In R. D. Howard, G. W. McLaughlin, & W. E. Knight (Eds.), *The handbook of institutional research* (pp. 3–21). San Francisco, CA: Jossey-Bass.
- Lampland, M., & Star, S. L. (2009). *Standards and their stories: How quantifying, classifying, and formalizing practice shape everyday life*. Ithica, NY: Cornell University Press.



- Lemann, N. (2000). *The big test: The secret history of the American meritocracy*. New York, NY: Farrar, Straus and Giroux.
- Marchand, S., & Stoner, J. (2012). A brief history of accountability in higher education. *Phi Kappa Phi Forum*, 92(1), 16-18.
- Massy, W. F. (2016). *Reengineering the university: How to be mission centered, market smart, and margin conscious*. Baltimore, MD: Johns Hopkins University Press.
- McLaughlin, G., Howard, R., Jones-White, D., & Reichard, D. J. (2012). Analytic approaches to creating planning and decision support information. In R. D. Howard, G. W. McLaughlin, & W. E. Knight (Eds.), *The handbook of institutional research* (pp. 3–21). San Francisco, CA: Jossey-Bass.
- Milliron, M. D., Malcolm, L., & Kil, D. (2014). Insight and action analytics: Three case studies to consider. *Research & Practice in Assessment*, 9(2), 70–9.
- Moran, M. (2015, July 31). Assessment estimates cost of federal regulation compliance at Vanderbilt. *Vanderbilt News*.
- Murnane, R. J., & Willett, J. B. (2010). *Methods matter: Improving causal inference in educational and social science research*. New York, NY: Oxford University Press.
- Ndoye, A., & Parker, M. A. (2010). Creating and sustaining a culture of assessment. *Planning for Higher Education*, 38(2), 28–39.
- Newell, M. (2012, November). The pursuit of credibility: Part three. *Career College Central*, 6(6), 34–36.
- Patton, M. Q. (2011). *Developmental evaluation: Applying complexity concepts to enhance innovation and use*. New York, NY: Guilford Press.
- Reichard, D. J. (2012). The history of institutional research. In R. D. Howard, G. W. McLaughlin & W. E. Knight (Eds.), *The handbook of institutional research* (pp. 3–21). San Francisco, CA: Jossey-Bass.
- Rhoads, R. A., & Torres, C. A. (2006). *The university, state, and market: The political economy of globalization in the Americas*. Stanford, CA: Stanford University Press.
- Rogers, J. (1997). Assessment in accreditation: Has it made a difference? *Assessment Update*, 9(4), 1–2.
- Saupe, J. (1990). *The functions of institutional research*. Tallahassee, FL: Association of Institutional Research.
- Schneider, C. G. (2016). Policy priorities for accreditation put quality college learning at risk. *Liberal Education*, 101(4).
- Scott, J., & Marshall, G. (2009). *Oxford dictionary of sociology*. New York, NY: Oxford University Press.
- Scriven, M. (1991). *Evaluation thesaurus*. Newbury Park, CA: Sage Publications.
- Secolsky, C., & Denison, D. B. (2012). Improving institutional decision making through educational measurement, assessment, and evaluation. In C. Secolsky & D. B. Denison (Eds.), *Handbook on measurement, assessment, and evaluation in higher education*. New York, NY: Routledge.
- Shavelson, R. J. (2010). *Measuring college learning responsibly: Accountability in a new era*. Stanford, CA: Stanford University Press.
- Slaughter, S. & Rhoades, G. (2004). *Academic capitalism and the new economy: Markets, state, and higher education*. Baltimore, MD: The Johns Hopkins University Press.
- Soares, J. A. (2011). *SAT wars: The case for test-optional college admissions*. New York, NY: Teachers College Press.
- Stecklein, J. E. (1971). Institutional research. In A. S. Knowles (Ed.), *Handbook of college and university administration* (pp. 4.123–4.134). New York, NY: McGraw-Hill.
- Stratford, M. (2015, September 23). A tougher test for colleges. *Inside Higher Ed*.
- Stone, D. (2002). *Policy paradox: The art of political decision making*. New York, NY: W.W. Norton & Company.
- Suskie, L. (2015). *Five dimensions of quality: A common sense guide to accreditation and accountability*. San Francisco, CA: Jossey-Bass.
- Suskie, L. (2004). *Assessing student learning: A common sense guide*. Bolton, MA: Anker Publishing Company, Inc.
- Terenzini, P. T. (1993). On the nature of institutional research and the knowledge and skills it requires. *Research in Higher Education*, 34, 1–10.
- Thille, C., Schneider, E., Kizilcec, R. F., Piech, C., Halawa, S. A., & Greene, D. K. (2014). The future of data-enriched assessment. *Research & Practice in Assessment*, 9(2), 5–16.

- Thornton, P. H. (2004). *Markets from culture: Institutional logics and organizational decisions in higher education publishing*. Stanford, CA: Stanford University Press.
- Thornton, P. H. & Ocasio, W. (1999). Institutional logics and the historical contingency of power in organizations: Executive succession in the higher education publishing industry, 1958-1990. *American Journal of Sociology*, 105, 801-843.
- Thornton, P. H., & Ocasio, W. (2008). Institutional logics. In R. Greenwood, C. Oliver, R. Suddaby, & K. Sahlin-Andersson (Eds.), *The sage handbook of organizational institutionalism* (pp. 99-129). Los Angeles: Sage.
- Thornton, P. H., Ocasio, W., & Lounsbury, M. (2012). *The institutional logics perspective: A new approach to culture, structure, and process*. New York, NY: Oxford University Press.
- Thornton, P. H., Jones, C., & Kury, K. (2005). Institutional logics and institutional change in organizations: Transformation in accounting, architecture, and publishing. *Research in the Sociology of Organizations*, 23, 125-170.
- Upcraft, M. L., & Schuh, J. H. (1996). *Assessment in student affairs: A guide for practitioners*. San Francisco, CA: Jossey-Bass.
- Upcraft, M. L., & Schuh, J. H. (2002). Assessment vs. research: Why we should care about the difference. *About Campus*, 7(1), 16-20.
- Volkwein, J. F. (1999). The four faces of institutional research. In J. F. Volkwein (Ed.), *What is institutional research all about? A critical and comprehensive assessment of the profession* (pp. 9-19). New Directions for Institutional Research, no. 104. San Francisco, CA: Jossey-Bass.
- Volkwein, J. F. (2008). The foundations and evolution of institutional research. In D. Terkla (Ed.), *Institutional research: More than just data* (pp. 5-20). New Directions for Higher Education, no. 141. San Francisco, CA: Jossey-Bass.
- Volkwein, J. F., Liu, Y., & Woodell, J. (2012). The structure and functions of institutional research offices. In R. D. Howard, G. W. McLaughlin & W. E. Knight (Eds.), *The handbook of institutional research* (pp. 3-21). San Francisco, CA: Jossey-Bass.
- Wall, A. F., Hursch, D., & Rodgers, J. W. (2014). Assessment for whom: Repositioning higher education assessment as an ethical and value-focused social practice. *Research & Practice in Assessment*, 9, 5-17.
- Webber, K. L., & Boehmer, R. G. (2008). The balancing act: Accountability, affordability, and access in American higher education. *New Directions for Institutional Research*, 2008, 79-91.
- Woodhouse, K. (2015, August 3). Does compliance cost \$11k per student? *Inside Higher Ed*.
- Young, K., Chambers, C., & Kells, H. (1983). *Understanding accreditation: Contemporary perspectives on issues and practices in evaluating educational quality*. San Francisco, CA: Jossey-Bass.
- Zumeta, W. M. (2011). What does it mean to be accountable? Dimensions and implications of higher education's public accountability. *The Review of Higher Education*, 35(1), 131-148.
- Zumeta, W. M., & Kinne, A. (2011). Accountability policies: Directions old and new. In D. E. Heller (Ed.), *The states and public higher education policy: Affordability, access, and accountability* (pp. 173-199). Baltimore, MD: The Johns Hopkins University Press.