Understanding State Higher Education Systems:
Applying a New Framework

IHELG Monograph

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Understanding State Higher Education Systems: Applying a New Framework

Introduction

An old fable tells of three blind men who each describe a different part of an elephant but are unable to collectively determine what they have before them is indeed an elephant. This analogy is somewhat applicable to the study of higher education systems. Past efforts have examined different parts of the higher education system—institutional administration, governance structures, and state policy environments—yet describing it holistically has remained elusive.

Some researchers have attempted to bridge two or more pieces of the higher education system elephant; others have focused on a single piece. Eulau and Quinley's (1970) historic study of legislative leaders in nine states sought the state policymaker perspective of higher education on issues ranging from finance to governance. Foundational governance investigations (Berdahl, 1971; Glenny, 1959; Millet, 1984) articulated the purpose of governance structures and primarily studied higher education autonomy in relation to the state.

More recent studies have built on these past themes or continued along similar lines (Schick, E.B. et. al. 1992; McGuinness, et. al. 1994; Hearn and Griswold 1994; Marcus 1997; Jones and Skolnik 1997; AGB 1998; Martinez 1999). They have examined issues of governance structure impact and change, legislative and trustee perceptions, and internal factors that contributed to changes in structure.

In 1994, The California Higher Education Policy Center initiated an effort to develop a conceptual, holistic understanding of state higher education systems by not only studying higher education structures but the environment in which the structures
lived. The study defined a state system of higher education to include public and private postsecondary institutions as well as the arrangements for regulating, coordinating, and funding them. The culmination of this work (Richardson, et al. 1999) was a framework that integrated theoretical notions with eight empirical case studies.

The framework was intended to aid policy makers and higher education leaders in determining if a state's policy priorities and the role it assumed aligned with higher education's structure. In effect, it considers organizational design and performance within the context of the system's policy and management environment.

**Purpose**

The purpose of this research was to investigate the applicability of an existing higher education systems framework, along with its definitions, to a case-study state that was not used in its derivation. Yin's (1994) notion of analytical generalization was especially germane as I was trying to determine if Richardson, et al's existing framework could help me understand similar issues (policymaker role, governance structures, and higher education performance) upon which the framework was built but in a different setting. The questions I sought to answer included: 1) Did the framework aid in the descriptive construction and analysis of the case study?, and 2) Through my analysis, what could I confirm about the framework and what could be extended, modified, or refined to help future research?

Regarding the first question, I was specifically interested in compatibility between the state's policy role toward higher education and the higher education structure. An ingrained assumption in this question was that noteworthy issues outside the boundaries of the framework could surface, and methodology should accommodate for that
possibility. The second question highlights that I was taking an existing framework not
knowing whether evidence from my case would produce inconsistencies or contradictions
that might question specific elements of the framework. My task would then be to
explain the details of why a specific element of the framework did or didn't work. The
remainder of the article briefly reviews the framework and provides a synopsis of the
case study state. The analysis and conclusions are presented in a manner consistent with
the way the research unfolded as questions and suggestions emerged.

The Framework

Richardson and colleagues (1999) embarked on an investigation of higher
education systems in eight states to conceptualize a general model that would go beyond
current descriptions of governance structures by including environmental factors that
contributed to overall functioning of higher education systems. The resulting model was
intended to offer insights about the performance of higher education structures vis-à-vis
policy priorities while assessing whether the structures were designed to accommodate
and realize such priorities.

The authors conceived a model with three distinct levels in which policy direction
may impact system performance. An adaptation of the model is shown in Figure 1. The
first level, the policy environment, includes characteristics of the state and state
government that are a product of history and current events. State variables that affect
higher education performance that cannot be directly controlled or influenced include
demographics, geography, economics, and sociopolitical factors. Variables that shape a
state’s relationship with and its ability to support higher education include relative
Higher Education Systems and Policy Levels

Policy Environment
(State Characteristics, Including State Policy Role)

System Design
(Unified, Federal, Segmented)

Work Processes
(Information Mgmt, State Budgeting, Program Planning, Collaboration & Articulation)
authority of the executive and legislative branches, constitutional status of higher education institutions or systems, and tax revenue availability.

A key characteristic of the policy environment is the role that the state chooses to play to achieve its higher education policy priorities, though any given state may exhibit behaviors consistent with more than one role. A consumer advocacy state concentrates on supporting demand; a providing resource state gives great deference to institutional values and provides money to higher education without taking an active role in defining or ensuring priorities are met; a regulating state controls price and attempts to define the relationship between institutions and the market; and a steering state focuses on policy outcomes and tries to structure the market to realize those outcomes.

The system-design is the second level shown in Figure 1 and includes higher education capacity, organizational designs of higher education institutions and governance structures, and the assignment of responsibilities for achieving higher education goals. Segmented systems have multiple governing boards, unified systems have a single governing board, and federalist systems have a statewide board in addition to a governing board(s). Handy's (1992) principles of interdependence, common rules, common measurement and communication, and twin citizenship characterize unified systems. Twin citizenship is the degree participants feel membership in both the larger system and their individual institution. Federal systems include the same characteristics as a unified system but add separation of powers (e.g. division of responsibility for public interest and institutional management) and subsidiarity. Subsidiarity limits the size of the central system and thereby preserves the role of the individual institutions.
Although the system design gives shape to work processes that occur within the system, Richardson, et al. defined a separate work process level, as shown in Figure 1, since many policies explicitly target some factor within this domain. The four major areas the authors identified were information management, state budgeting methodology, program planning, and articulation and collaboration.

Each level in the model is affected by the others. By understanding the levels and the policies that affect the levels, a primary aim of the model is to ascertain whether compatibility exists across levels. Of particular interest to the framework’s authors was the compatibility of the state’s role to the design of the higher education system.

The issue of compatibility was at the heart of my first research question. There are four defined state roles (steering, consumer advocacy, regulating, and providing resources) and three system designs (federal, unified, and segmented) identified by the framework. The eight study states used to construct the framework did not speak to all twelve possible combinations (nor was this the intent), but the suggestion to consider role and design together raises the question of whether these two levels are working at cross-purposes. For example, a state that tries to regulate a constitutionally autonomous university system may be unsuccessful because the design of that system repels regulation.

Finally, Richardson, et al. state that it is relatively easy to influence the work process level in the short term, and this has historically provided an attractive avenue by which policy makers attempt change. Although system design changes are more difficult to employ, Marcus’s (1997) chronology of such changes illustrates that this mechanism has been used by states.
Methodology

My purpose of applying the framework to a case study state not used in the framework’s conception was to analyze its application and usefulness to a new setting. The National Center for Public Policy and Higher Education (NCPPHE) sponsored and funded a case study of South Dakota’s higher education system because it was interested in what appeared to be policy-driven change in the state.

In cooperation with NCPPHE staff, I gathered empirical case data before the site visit to gain sufficient knowledge of South Dakota's context. The case data included state documents, state higher education generated data, U.S. Census data, reports from national academic and consulting sources, and newspaper articles. The preliminary data gathering also served as a backdrop against which to compare eventual interview results.

I accompanied two NCPPHE staff members to South Dakota to interview higher education administrators, board members, legislators, and policymaker aides. NCPPHE staff selected interviewees that were representative of the policy and higher education environments and were in leadership positions in their respective environments. Those policy makers who had a record of interest and activity in participating or initiating legislative changes in higher education were the preferred targets for the interviews. We conducted a total of 11 in-depth interviews on-site and asked each respondent to recommend any other persons that we should contact. Based on interviewee suggestions, I conducted telephone interviews with three additional administrators, three faculty members, and two state economists.

Prior to the site visit, we developed an interview protocol to obtain participants’ perceptions regarding South Dakota’s higher education environment, its effectiveness at
meeting state policy goals, and whether change had taken place and what accounted for it. Our strategy was to use the protocol only as a guide rather than to ask formal questions. Each conversation started off with a brief introduction explaining our interest in higher education policy in the state, but we then invited the respondent to address any significant higher education issues that might help us understand policy, change, and the intersection thereof. The open-ended interview approach, advocated by Joahda, Deutsch & Cook (1951), is meant to accommodate the informant’s unstructured responses to issues rather than to adhere to a fixed interview format. We asked about protocol issues that were not addressed near the end of the interview if the conversation seemed amenable to addressing those areas.

Each team member produced independent notes from each interview, immediately audio recording the notes following the interview. After all of the audio recordings were transcribed, I coded and sorted them according to a coding scheme I had developed prior to the interviews. Of central importance was that the coding scheme was primarily predicated on the general concepts defined in the framework. I tried to create coding categories that were sufficiently general, would allow for flexibility and revision, and not completely impose themes on the coming interview results. Revision of coding themes is a common practice since the categories used by the analyst may be preexisting or they may emerge from the data (Bulmer, 1979). Some coding themes were in fact revised after the interviews, but presetting the coding scheme to align with the concepts in the framework allowed me to begin answering my study questions.

The intent of initial data gathering, protocol design and coding scheme was not to enter South Dakota with preconceived notions of how the case study would eventually
evolve. We wanted to be open to issues we hadn't considered, but we did choose to study
the state because we had a general theme that we were interested in, namely policy-
driven change in the state's higher education system. The very reason for employing
open-ended interviewing techniques and coding categories subject to revision was to help
balance researcher bias with openness to emerging data.

I used the three levels of the model (policy environment, system design, work
processes) as the major themes to organize and file all case data. By using three
superseding categories, each having several subcategories, I was able to build what Yin
(1994) refers to as a case study database. Organizing the data in this manner also allowed
me to compare results from different sources and respondents. Once the database was
completed, I constructed the outline for the case and produced the descriptive study. The
last step was to directly consider the concepts of the framework vis-à-vis the South
Dakota case to fully answer the research questions.

Case Study Background

A synoptic description of the South Dakota case study is necessary for
understanding the analysis and findings of the study. The sections of the description
follow the format of the policy levels established by the model I was testing. These
levels include subcategories, but the major headings of the descriptive synopsis are as
follows: policy environment, system design level, and work process level.

South Dakota's Policy Environment

Policy maker Participation and Roles

Some significant changes in South Dakota higher education, although the result of
many events, have developed from a process that has helped move ideas toward actual
implementation—the “roundtable” discussions. Roundtables are used as a strategy for change in South Dakota, as a means of developing consensus on priorities and on the actions necessary to address those priorities. Initiated in 1995 by the Board of Regents, the roundtables brought higher education stakeholders together for discussions about state higher education issues. Some roundtables targeted policy makers or business constituents, others were held at universities to garner faculty and administrative input.

Participation in the roundtables—which included the governor and top legislative leaders—could easily be described as successful. Virtually every interviewee mentioned the usefulness of the roundtable discussions, not only as a means of opening communication lines, but as a way of sharing ideas and information. A number of legislators have become actively engaged in higher education issues mainly due to their participation in the board-initiated roundtables. A state senator who served as a co-convener to one roundtable captured what appears to be another important role the dialogues have played in South Dakota higher education over the last four years: “We have gotten people in a room talking about the problems—and I think that has helped us to initiate policy-driven change.”

In some cases, the roundtables clearly produced agreement among state lawmakers and higher education officials. In other cases, such as articulation between the state universities and the technical institutes, disagreement persists. In all cases, it seems that the roundtables were successful in putting issues on the table. One higher education leader who believes significant change has occurred said, "The number of political actors in South Dakota is relatively restricted and well known; if you can align the players, you can get something done." According to another respondent, the
roundtable process has been effective in South Dakota because the executive director of
the South Dakota University System (SDUS) has been able to come to the roundtables
with an agenda and use the process as a means of building consensus around that agenda.

State Context

South Dakota is a sparsely populated state that will grow at a slow rate over the
next 15 years, but the number of South Dakota high school graduates is projected to
decline 3.3% over the same time period. The state has experienced a strong economy
over the last several years, but its 1996 income per capita remained well below the United
States average.

Policy makers and higher education representatives believe that there will be
more demand in all sectors of the economy for trained professionals, especially in areas
related to technology. Still, there is a sense among the leadership that the state cannot
supply enough opportunities to retain all of those who acquire a university education.

The state does produce a large number of baccalaureate degrees relative to the
number of high school graduates, but the number of adults with a college degree in South
Dakota is lower than the average of states in the region (NCHEMS, 1998). An
explanation for this discrepancy is that college graduates are leaving the state upon
graduation, in search of better jobs.

Political Climate

The Legislature and Governor

At the time of the study, statewide offices were dominated by Republicans. The
Legislature meets part-time, and all legislators are elected to two-year terms, with a limit
of four consecutive terms in either house.
Republican Governor Bill Janklow was reelected to his fourth term in the November 1998 mid-term elections. He served two terms as governor from 1979 to 1987 and was elected to a third term in 1994. In the interim, George Mickelson was elected to two terms. South Dakota is classified as a strong governor state because of the governor’s veto and budgetary powers (Burns, Peltason, and Cronin, 1990). Also important to the governor’s influence are the characteristics of a part-time Legislature that has virtually no staff, meets 35 to 40 days a year, and must sift through some 700 bills on an annual basis, a fraction of which are related to higher education. Higher education administrators and legislators suggested that any significant change in the state would certainly require the governor’s approval if it were to be successful, though most did believe that the governor is committed to supporting higher education. One higher education respondent emphasized, "This is a very strong governor state. The Legislature has no staff or information. The governor has a lot of information needed to make decisions."

State Finances

South Dakota has no personal income tax, collects relatively little from corporate net income, and has consistently reduced property taxes over the last several years. One regent echoed a concern of many we spoke with noting that “demographics constrain our state revenue structure because it is so sales dependent, and we don’t see great population growth in the future.”

Education (which includes K-12 and vocational institutes, but not higher education) is by far the largest general expenditure for the state. However, higher education in South Dakota has fared better than the national average across various
higher education spending measures. The state’s five-year growth rate (21.7%) in higher education spending between 1991-92 and 1996-97 is well above the cumulative national spending growth figure of 15.7%. South Dakota’s spending rate per student also increased faster than most states during the same time period, though the actual dollar amount for this measure remained below the national average (Halstead 1997).

Tuition and Student Aid

Indicators of higher education affordability in South Dakota are mixed. There are no public community colleges in South Dakota, so the option of a public two-year post secondary education rests primarily with the vocational institutions. Estimated costs of a 32-hour course load per academic year at a vocational institute are higher than the national average cost of attending a two-year community college, though public and private tuition at four-year institutions in the state is lower than the national average.¹

Tuition as a percent of total revenues (defined as tuition plus state appropriations) was 42.1% in 1996–97 for South Dakota, while the national average was 31.4% (Halstead, 1997). This means that students are paying a larger percentage of their educational costs than the national average, not that actual tuition is higher. Most legislators accurately commented that students pick up about 42% of their higher education bill, with one state senator offering, “I think it can incrementally increase and I don’t think it would be a big concern.”

The data on student financial aid reflects the perspective that borrowing is a normal part of receiving a higher education in South Dakota. Seventy percent of South Dakota University System (SDUS) student aid is in the form of loans, compared with a 48% figure nationally. South Dakota devotes few resources to state need-based aid, and,
in fact, currently provides more merit than need-based scholarships to its students.

Finally, in 1996-97, SDUS students received 56% of their grant aid from federal sources and 1% from state sources, compared to national figures of 31% and 16%, respectively.2

System Design

South Dakota has 24 postsecondary institutions, ten of which are private, four of which are public technical institutions. The six public four-year institutions dominate postsecondary enrollment. The SDUS Board of Regents governs the state’s six public universities as a system of higher education. The nine members of the board are appointed by the governor and confirmed by the Senate. In addition to governance and systemwide planning responsibilities for public higher education institutions, state-level planning falls within the board’s purview (McGuinness, et.al. 1994). Public tuition at South Dakota’s universities also is set by the Board of Regents.

The board appoints an executive director to serve as its chief executive officer. In 1994, as part of a statewide effort to develop policy-driven change in higher education, the board adopted a governing approach that placed greater emphasis on system leadership, largely through the position of the executive director. Policy makers and university administrators were very upbeat in discussing the current composition of the board, using words such as “synergistic and eclectic” to describe the members. One university president said, "Governor Janklow has done a good job making his appointments."

The other major branch of public postsecondary education in the state is the technical institutions. There are no community colleges in South Dakota, though one legislator cautioned, "It is best not to get stuck on what we call institutions but focus on
what they do and how they can meet state needs." The State Board of Education governs
the four technical institutions in the state, but their operations continue to be under the
administrative control of the K–12 school district boards that first initiated them as area
vocational schools in 1965 (Sullivan, 1997).

A festering issue in the state that may soon come to the forefront is the
governance of the technical institutes. Recent events regarding articulation and two-year
offerings seem to have created this debate, resulting in strong difference of opinions
about the role and intent of the technical institutes. Many higher education
representatives believe that the technical institutions are already moving toward an
academic function in offering two-year degrees while maintaining their niche of serving
the business market. Regent respondents said that if the technical institutions were under
their governance structure, then coordination and program planning would more
effectively meet the state’s needs.

Complicating the picture is the high regard policy makers have for the technical
institutions, and their sound reputation throughout the state. Legislative reaction was
mixed, cautious and contemplative regarding a restructurin. One legislator said, "We
have a wonderful Votech that is meeting our needs." The technical institutes are happy
with the current governance arrangement and believe it makes sense. An institute
director responded that "there would be no reason to change our mission or governance
structure because we are doing an excellent job of meeting current business needs."
Work Processes

Budget Changes

The instructional formula designed in the 1970s can best be described as input driven since it was largely dependent on enrollment. The new base-plus method, as it is called, allocates state higher education appropriations and 80% of tuition revenues into a single pool for the six public universities (SDBR, 1997). A significant portion of the pool will support a predictable base for each institution that is not dependent on enrollment and will adjust for inflationary increases over time.

Budgetary changes were intended to be linked to state policy goals. The nine state policy goals that evolved from the roundtable discussions concerned the following areas: access, economic growth programs, academic improvement, human resources, faculty development, collaboration, technology infrastructure, facilities and equipment, and external funds (Ibid.). The base is intended to support policy goals that are believed to directly affect instruction, operations, and other core activity.

The legislature also endorsed the board’s plan to pursue a performance-based funding policy whereby five percent of the pool will be awarded to public institutions that meet certain policy objectives. The funding will be divided equally among five policy incentives: access, economic growth programs, academic improvement, collaboration, and increases in non-state funds (Ibid.). These priority areas were determined in consultation with the legislature. Each institution established (after negotiation with the Board of Regents) a target for each of the five policy incentive areas. If the institution meets or exceeds a goal, they receive the one percent associated with that goal; if they do not meet the goal, they do not receive that portion of their funding.
Opinions differ as to how performance-based funding will work. Some reserve comment or believe no changes will happen. A House representative echoed an opinion by a Senate colleague when he said, "If each university ends up with five percent of the incentive funding, this whole thing may be a fallacy." Higher education officials were more inclined to believe significant movement toward state policy goals is clearly within sight. Finally, there are those throughout the state that believe things will change--but only on the margin.

Collaboration

According to most of the individuals we spoke with, one of the most significant changes in higher education in the state over the past 10 years has been a noticeable change in the way the SDUS operates. Rather than each institution acting on its own behalf, the institutions have acted much more for the good of the system. Institutional administrators used words like "unified" and "collective" as they spoke of recent efforts between and among one another. The roundtable process itself was also more effective once institutions of higher education could approach issues collectively, rather than in competition with one another.

The evolution of the state's six universities acting more as a system was a result of many factors. In the 1980s Governor Janklow, by most interviewee accounts, appointed competent regents. Governor Mickelson, who succeeded Janklow, fully funded the enrollment formula and simultaneously asked how the universities could become more integrated. In 1993, the formula was no longer fully funded, but ironically, this too may have pushed the institutions and the board to work together in the face of unpredictable funding.
Board influence also began to increase, and the universities were “constantly pushed to work together,” according to one president. The board reinforced the unified approach to higher education in a 1997 policy statement. In response to policy makers who were concerned with unnecessary duplication within the system, the board called for a unified approach reflected in administrative services and in the use of academic resources. The policy statement established statewide discipline councils in eleven academic disciplines. The intention was to develop greater collaboration with regard to curriculum offerings, as well as in the development and deployment of resources (South Dakota Board of Regents, 1996).

In addition to creating a common policy agenda for public higher education, the idea of working together as a system has encouraged some partnerships between institutions. For example, institutions have begun to collaborate on course offerings, particularly in low enrollment programs, when combined system enrollments may indicate a need for continuing those programs. And successfully transitioning to a new state budgeting process for higher education had systemwide support and was skillfully advocated by the board.

Efficiency and Program Planning

The Legislature in 1995 passed a resolution calling on higher education to be more efficient. While most areas of state government were seeing reductions in funding, higher education did not. The Board of Regents used the roundtable process to strategically determine how the system might respond if faced with a budget reduction.

The board called on institutions to find savings in their base budgets equivalent to approximately 10% of the budget for instruction. Savings came not only from
eliminating low-enrollment programs, but also from redesigning enrollment service centers, administrative consolidations, and minor changes in business practices. The system successfully generated the 10% savings. Institutional executives apparently felt this effort was a unified effort as one president commented, "We tried to come up with the money in a way that would do the least harm to the system."

At a roundtable held just prior to the 1996 legislative session, the board brought a proposal for strategies to reinvest these savings. The major product from this roundtable was an agreement (which Governor Janklow bought into) to allow each institution to reinvest the savings it could produce while requiring that the reinvestments be made in high priority activities. The priority areas included: the establishment of Centers of Excellence at each of the institutions, investments in technology infrastructure, curriculum redesign, and K–12 linkages.

Each institution was free to define the theme of its Center of Excellence, allowing it to add additional resources to an existing area of interest or strength. The Center of Excellence at Dakota State University, for example, emphasizes information technology. The Centers of Excellence at other campuses focus on such areas as engineering processes, math and science education, and international business.

The Centers of Excellence also have been a mechanism to enhance quality. The SDUS is trying to provide evidence of quality and accountability through other means as well, such as standardized testing for college sophomores, changes in admissions standards, and the quality of academic programs. Faculty pay has been of interest to board members as well as faculty, because South Dakota professorial pay ranks near the bottom of the scale among the fifty states. Though some pay increases have happened,
perceptions regarding impact on faculty quality are mixed. One faculty member flatly stated, "When you're at the bottom, small increases don't make big differences."

Many of the changes meant to enhance quality—from pay to admissions standards—are in motion, but beliefs about the efficacy of those changes is largely dependent on whom one asks. Interestingly, many of those who seemed convinced that all the changes would increase quality, referred to the preference of top prospective, resident students picking out of state institutions.

Articulation

In terms of articulation, technical institutes previously worked with individual universities to arrange agreements. In 1998, however, the Legislature passed an articulation bill that required the university system to take up to 64 credit hours from technical institute students who wished to transfer to a university. One institute director said that his previous arrangement with an individual university had been working well, and that the articulation bill "had complicated the issue." From the board’s perspective, articulation should be a system-to-system arrangement, and the bill means the universities must take the credits, but "it doesn't necessarily mean that they will count for any particular major."

At one roundtable session, legislators perceived the data on articulation provided by the Regents to be incorrect and were upset at how the issue was being handled. This seemed to be consistent with the legislative input provided in the interviews, as some individuals believed that the university system was putting up too many roadblocks and that there should be no problem transferring courses.
Summary

There have been several policy-driven changes in higher education in South Dakota over the past five years. State policymaker participation and thus the state’s role in higher education issues has become more involved over the years largely because of the roundtable discussions. Issues that have surfaced mostly concern the work processes within the six public institutions, though system design between the technical institutes and the universities may soon be at the forefront of policymaker consideration.

What is clear is that South Dakota does not rely on providing students with information or resources to guide change. And the changes that have taken place or are in consideration have been driven not by the institutions or students but by policy makers and administrative leadership at the state level.

Analysis

Richardson et al’s (1999) three policy levels served as a helpful guide to begin formulating a picture of South Dakota’s higher education environment. Table 1 is a general summarization of the author’s findings (Ibid., p. 168) relating the compatibility of a state’s policy role with its higher education system design. The original study states served as the foundation upon which the various conclusions of compatibility were based, though the authors made no assertion that the conclusions could be generalized. Richardson, et al. addressed five of the twelve possibilities listed in Table 1. South Dakota occupies a combination of design and state role that was not addressed in the original study, and I will explain my placement and conclusion about compatibility (also shown in Table 1) in the remainder of the article.
Table 1

Compatibility Between System Design and State Policy Role

<table>
<thead>
<tr>
<th>State Role</th>
<th>Steering</th>
<th>Consumer Advocacy</th>
<th>Regulating</th>
<th>Providing Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Federal</td>
<td>Compatible</td>
<td></td>
<td>Mismatch</td>
<td></td>
</tr>
<tr>
<td>Unified</td>
<td></td>
<td>Compatible</td>
<td>South Dakota* theoretically compatible; mixed respondent results</td>
<td></td>
</tr>
<tr>
<td>Segmented</td>
<td></td>
<td></td>
<td>Mixed Results</td>
<td>Compatible</td>
</tr>
</tbody>
</table>

*Not part of original study*
After completing the descriptive case of South Dakota, I placed the state where it best fit on Table 1, given my initial analysis of the state. My conclusions were based on theoretical premises, case study facts and respondent input.

The design dimension from Table 1 was fairly easy to classify based on two prominent facts from the case study description. First, South Dakota higher education is dominated by its six public universities, and, more than ever, the institutions operate as a system. The formal organizational structure of the SDUS also is aligned with the description of a unified system. Second, Handy’s (1992) requirement that twin citizenship (the degree to which participants feel part of the larger system and the institution to which they have their primary allegiance) typify unified systems is evident in the case study and interview results, particularly with institutional presidents.

South Dakota: Regulation of a Unified System

The state’s role is more difficult to define because there were multiple factors to consider, and every state probably exhibits some minimal level of each role. My strategy was to eliminate the roles in which the state was weak. South Dakota’s role of consumer advocacy, for example, is almost nonexistent. The state provides virtually no aid for students, most of whom rely disproportionately on federal aid compared to their peers in other states.

The state also cannot be categorized as a provider state, an environment in which colleges and universities experience the greatest degree of autonomy. SDUS institutions do not have constitutional autonomy and, by no respondent’s opinion, were administrators of the institutions free to exercise their will.
The two remaining state roles are that of steering and regulating. State policy makers and state-level regents have defined policy outcomes, but there is little use of the market to achieve these outcomes—something that would characterize a steering state. Aligning policy priorities to appropriate market strategies in South Dakota would require great creativity since two prominent mechanisms that allow for market utilization are largely absent: private institutions and student aid. In addition, no evidence in the case study suggested that the recent state budgetary changes and the implementation of performance measurement will give institutional administrators significantly more discretion and flexibility in managing their resources.

Policy outcomes were defined by the regents and bought into by policy makers, tuition is controlled at the state level, most significant changes that appeared in the case study were spearheaded by state-level officials, and institutional leadership works under the auspices of the board but never bypasses it. Finally, the change initiatives that occurred in both budgeting and reinvestment were largely top-down driven. All of this led to the conclusion that South Dakota's state policy role is predominately regulatory.

Richardson et al’s study did not cover the case of a unified system operating in a state that appeared to assume a regulatory role, so I was unable to immediately make any conclusions regarding compatibility. However, one might reasonably hypothesize that a unified system may function well under a regulatory environment. A single, centralized governing board is well positioned to enforce rules and initiate change. This certainly seemed to be true for changes in the case. Thus, from a theoretical standpoint, my conclusion was that system design and state role were compatible.
But to tie compatibility to the facts of the case, I defined the individual issues that were of significance in the case, the state’s role regarding those issues, and how respondents felt about the issues. Thus, respondent satisfaction and perception regarding the various issues were used to confirm theoretical compatibility. Respondent satisfaction was analyzed from the coded notes. The coded scheme allowed me to group respondent reactions together for each major issue, thus allowing a general comparison of respondent input against the general theoretical designation of compatibility.

The Issues

In South Dakota, the overwhelming majority of postsecondary students attend the public universities, making university-related issues particularly salient. Table 2 displays the five salient issues that emerged from the South Dakota case study. All of the issues directly related to the public universities and appear in order of frequency and depth with which the issue appeared in the case.

The corresponding system design, state policy role classification, and comments regarding compatibility are included in Table 2. When I analyzed the issues separately, a conflict arose in my previous designation of the system design as unified. Some important issues dealt with the state’s technical institutes, and these institutes are governed by an autonomous body that is not part of the unified university governance system. Issues that crossed postsecondary sectors created a need for a secondary system design classification of “segmented.” In these instances, a broad definition of system design as given in the framework appears problematic. For reasons previously discussed,
## Table 2

**Determining Compatibility in South Dakota**

<table>
<thead>
<tr>
<th>Issue</th>
<th>System Design</th>
<th>State Role</th>
<th>Compatibility Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>State Budgeting</td>
<td>Unified</td>
<td>Regulatory</td>
<td>Mostly optimistic regarding tie to policy outcomes; mixed regarding performance measurement</td>
</tr>
<tr>
<td>Reinvestment:</td>
<td>Unified</td>
<td>Regulatory</td>
<td>Positive about prospects and current level of changes and activity by most respondents</td>
</tr>
<tr>
<td>- Program Planning</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Collaboration</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Centers of Excellence</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quality Efforts</td>
<td>Unified</td>
<td>Regulatory</td>
<td>Mixed regarding current quality levels and efforts to improve quality</td>
</tr>
<tr>
<td>Articulation</td>
<td>Segmented</td>
<td>Regulatory</td>
<td>Ineffective, disagreement persists</td>
</tr>
<tr>
<td>Technical Institute Governance</td>
<td>Segmented</td>
<td>Undefined</td>
<td>Sharp disagreement</td>
</tr>
</tbody>
</table>
a general system designation of unified is probably still appropriate, though I will discuss implications of this issue in the final section.

Most of the issues in Table 2 dealt with the work processes identified in the model. The inclusion of a work process issue, system design, and state role in the table corresponds to the three policy levels discussed at the beginning of the article.

In Table 2, the two dominant issues solely involved the public universities, or the unified system. State-level respondents (board members and policy makers) and institutional administrators seemed positive about the development of policy outcomes in tandem with budgetary changes and the promise of stability in base allocations for the institutions. Reactions were less consistent regarding the utilization of performance measurements as an incentive portion of institutional budgets, with some respondents believing it to be a sham and others believing it to be an effort to appease accountability calls. Board members seemed most supportive of the incentive component of the budget while legislators were more likely to question its intent and subsequent results.

Respondents were generally satisfied with the various activities spurred by the Reinvestment Initiative, which was largely about increasing efficiency. There seemed to be optimism that programmatic issues were finally being addressed that might enhance system efficiency, and this, along with other pressures and incentives, were creating opportunities for institutions to collaborate and engage in other worthwhile activity.

Academic quality also emerged as an issue in the case. Though most parties were in agreement that changes needed to be made and spoke positively about the prospects that were in motion, there were vastly different opinions regarding current quality. Particularly notable was pessimism by board members and faculty members regarding
current issues of quality that have been targets for improvement such as faculty pay and increasing the overall quality and perception of the system.

The last two issues involved the university system and the technical institutes, thus the system design was designated as segmented. Articulation, which is a work process, seemed to be a concern for state policy makers in particular. In the policy maker view, there were little or no acceptable standard articulation guidelines, so the state tried to regulate change by passing a law mandating such an agreement. As Table 2 displays, the regulation effort was ineffective and disagreement persists. Some technical institutes even thought they were better off without a mandated agreement. Respondent opinion of compatibility between the state’s role and the two segmented systems was fairly straightforward: nobody was happy, satisfied, or felt the articulation issue was resolved.

The state’s role in addressing the governance of the technical institutes is unclear. The change has not yet gained enough momentum to make a judgement, and policy makers still seem to be gingerly assessing their role on a very contentious issue that directly deals with system design. Respondents agreed, however, that a governance change of this sort would require state action by a state leader who could afford to “take a few hits.”

**Research Questions**

Did the model design aid in description and analysis?

My first question in testing Richardson’s system model was whether or not it was helpful in conducting the description and analysis of South Dakota’s higher education system. The model contributes to the literature by urging the researcher to look at higher education structures and designs not in isolation but in the context of its environment and
its internal processes. This description in the South Dakota case inches us closer to truly viewing higher education as an open system. It also opened the door for further investigation. Indeed, the more interesting questions concerned the model's applicability to the case analysis.

Strengths of the model design in analysis

The model had two primary strengths that aided the analysis of South Dakota. First, the model provided points of clarity for thinking about relationships among and between the three levels that comprised it. For example, the model provided a vehicle to talk about budgeting (work process level) and analyze the role state policy makers (state policy level) and the Board of Regents (who, theoretically, operate at the systems design level) assumed in making changes to state budgeting.

This led to the second strength: calling attention to the levels of a higher education system to determine whether compatibility exists between those levels. This assessment offers a new perspective on analyzing policy-driven change and the likely success, resistance, or failure of that change. The model did not intend to cover every combination of state policy role and system design, but with case data and existing organizational research, the investigator is well positioned to make his ultimate assessment of compatibility and its effect on change. According to the framework's authors, if compatibility among and between the policy levels is absent, conflict, frustration, and gridlock result (Richardson, et al., 1999, p. 200). In South Dakota, theoretically and empirically, I determined that regulated policy-driven change of a work process was compatible with a unified system design. In addition, changes evident in the case did not produce unusual conflict between the state role and SDUS.
Weaknesses of the model design in analysis

Actual analysis is often messy, and as I tried to use the model to enhance my understanding of South Dakota, there were additional questions that surfaced that were not fully addressed by the model. First, though the model helped me assess compatibility, it did not answer whether compatibility was necessary or desirable for effective policy-driven change to occur. Second, the issues in the case encompassed the three policy levels, but analysis suggested another layer of detail merited scrutiny. This detail raised questions about designating one general policy role for a state.

The State's Role Revisited

In a 1998 report, the Association of Governing Boards of Universities and Colleges (AGB, 1998) interviewed state policy leaders from around the U.S. and found that the majority of respondents believed higher education trustees had difficulty achieving a balance between advocating for higher education institutions and serving as guardians of the public trust, an issue previously broached by Kerr and Gade (1989). In South Dakota, achieving this balance is complicated by the fact that there is not a clear separation of who makes higher education decisions at different levels.

Part of Handy’s (1992) advocacy for federalist structures is that management, monitoring, and governance resides in separate units. In South Dakota, it was not always clear whether board or policy maker preferences were most influential on changes that involved higher education governance, monitoring, and management. This complicated the classification of the state’s role, so additional analysis of case detail was appropriate.

The board is, of course, part of the system design, as defined by the model. If the board errs on the side of advocating its own system and has a heavy hand in “leading”
successful legislation, then there is a question in my mind: Is the state really regulating higher education or is higher education managing and governing itself while establishing its own monitoring criteria? If the board errs on the side of guarding the public trust then they are, roughly speaking, acting more as a state legislator would in pursuing higher education policy changes. This is not a trivial consideration in a state like South Dakota. Board representatives can be quite influential and legislators are part-time public servants who depend on information the board or the governor makes available.

From a higher education perspective, particularly from the board’s vantage point, two unavoidable questions emerge: 1) To what extent can system leadership exert influence on state policy makers, and 2) How does that influence impact how the state's role should be classified?

Case results clearly indicate that South Dakota's board has been able to exert, through its own initiative and leadership, influence on policy-driven change. On the balance, though, I would still classify South Dakota as a regulatory state because of the governor’s strong influence and the board’s collaborative consultation with the Legislature to instigate change.

Conclusions: Assessing and Forecasting Policy-Driven Change

Richardson councils that alignment among all three levels of policy, which include policy environment, system design, and work processes, creates compatibility. One can predict compatibility mismatches between structure and management by combinations that clearly place the structure and the state role in conflict. Certainly, a system designed for extreme autonomy (segmentation) would feel a Sisyphean burden if it had to operate under a heavily regulated environment.
The final questions that emerged, in light of addressing the research questions, had compatibility at the focal point: 1) Is a general classification of compatibility for a single state always appropriate? 2) If compatibility exists, does it produce desirable results, and 3) Is compatibility a prerequisite for policy-driven change.

First, it is clear from the South Dakota case study that care must be taken before a system or state role can be classified according to the Richardson, et al. framework. It also may be difficult to classify an entire state higher education system's design and the subsequent state role on a given issue if multiple higher education sectors exist. These determinations must be made before compatibility is assessed and therefore may affect whether a broad classification for compatibility is appropriate. In South Dakota there is a dominant sector, but the existence and importance of the technical institutes serves as a caution that singular designations for system designs or state roles regarding particular issues may require further consideration. It may be useful to first look at individual issues and then figure out if a general statement about design, state role, and compatibility is appropriate or even possible. For South Dakota, especially for analysis purposes, it is appropriate to investigate compatibility issues between the SDUS and the state role and the state role and the technical institutes and the SDUS (segmented system).

The preponderance of evidence in South Dakota suggests that compatibility exists between the SDUS and the state's policy role. The second question then is whether, according to my case, compatibility produced desirable results. The state's regulatory role with the unified SDUS has produced positive results with regard to efficiency, but quality is still up for debate. Although those concerned about quality did not deride the
changes as senseless, pointless, or ineffective, I am careful about believing that compatibility always results in desirable outcomes.

This leads to the last question of whether compatibility is even necessary for policy-driven change. From the South Dakota case, compatibility has coincided with leadership activity and internal changes within higher education. This perspective is strikingly similar to prescriptive theories of organizations. Structural contingency theory and resource dependency theory both attribute change and success of organizations to leadership and its strategies (Marion, 1999). However, compatibility could mean that the entire system is firmly entrenched in its current state, leadership and its subsequent strategies only maintain the status quo, and changes are marginal and symbolic.

To that end, I have two conflicting conclusions regarding the state of South Dakota. On one hand, the apparent alignment between the state’s regulator role and the unified university system has not only proven capable of producing change, but the optimism and satisfaction among higher education stakeholders seems to outweigh the quality concerns that were voiced by many of the respondents. Here, compatibility seems to be a positive prerequisite for productive change.

The conflicting evidence comes in the analysis of issues that cross the universities and technical institutes. In the spirit of trying to form a potential marriage between two very disparate entities, one is immediately drawn to the conclusion that major change should be top-down driven, something quite common in successful change efforts (Goodstein and Burke, 1994; Evans, 1995). This would imply that South Dakota should assume a regulatory posture in dealing with issues that cross postsecondary sectors, yet the state’s experience with articulation has proved less than satisfactory to almost all
involved. The technical institutes and SDUS create a segmented system, and segmented systems do not align very well with a regulatory state posture. Conversely, using “carrots rather than sticks” for an issue as divisive as a governance change involving the technical institutes would not be effective. If technical institutes are to someday consolidate under the auspices of the university system, it is likely that regulation is the only answer, and according to several sources in the case study, it must be done by the right person (who has nothing to loose politically) at the right time. Ironically, here we see an example of a potential change from the status quo that can probably only happen in the midst of incompatibility between the state’s role and the system that is the target of that change.
Reference List:


EndNotes

1 Tuition and fee data for US average and South Dakota four year institutions were obtained from Chronicle of Higher Education Almanac, 1993 and 1998. Tuition and fee data for two-year institutions in South Dakota were obtained from the South Dakota Department of Educational and Cultural Affairs (SDDECA), and are based on a 32 credit-hour academic year, at $50 per credit plus fees. Two-year technical institute tuition in South Dakota, based on the SDDECA provided calculation, was $2,352 in 1997 compared to a US average of $1,283 for two-year public institutions.