Organizational Learning by Colleges Responding to Performance Funding: Deliberative Structures and Their Challenges

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Abstract

This paper identifies and analyzes the deliberative structures used by colleges and universities to respond to performance funding demands and the factors that aid and hinder their working. Our investigation found that colleges use a variety of deliberative structures, including both their general administrative structures and more specialized and evanescent structures such as strategic planning committees and accreditation review committees, to engage in organizational learning. The aids and hindrances to effective deliberation that colleges encounter principally involve organizational commitment and leadership, effective communication and collaboration, timely and relevant data, and enough time for deliberation. Our data come from telephone interviews with over 200 college personnel at nine community colleges and nine public universities in three states: Indiana, Ohio, and Tennessee. The respondents were senior administrators, middle-level administrators, academic deans, and department chairs at these institutions.

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1. Introduction

The topic of organizational learning is relatively new in higher education (Bensimon, 2005; Bess & Dee, 2008; Kezar, 2005; Witham & Bensimon, 2012). Yet, it has great relevance to the concerns about improving efficiency and outcomes fueling the performance accountability movement in higher education. Lumina Foundation and other funders have been making major efforts to improve community college student outcomes, and one of these initiatives—Achieving the Dream—is premised on the idea of assisting colleges with organizational learning:

> Achieving the Dream provided both monetary and technical support to the participating institutions. … [T]he colleges were aided by two consultants: a data facilitator, who helped them perform the data collection and analysis and interpret the results, and a coach, who helped them set priorities, build consensus, and implement strategies for improvement. … Each institution sent teams of administrators and faculty to these events, where they learned more about the Achieving the Dream process, made plans for their own campuses, and shared ideas and lessons with other colleges on how to help students be more successful. (Rutschow, Richburg-Hayes, Brock, Orr, Cerna, & Cullinan, 2011, p. 12)

In recent years, performance funding—a funding model that connects state appropriations directly to a college's performance on indicators such as student retention, graduation, and job placement—has become a popular strategy for states to encourage better college outcomes (Burke, 2002, 2005; Dougherty & Natow, in press; Dougherty & Reddy, 2013; Harnisch, 2011; Lumina Foundation, 2009; McLendon, Hearn, & Deaton, 2006; National Conference of State Legislatures, 2015; Reindl & Jones, 2012; Reindl & Reyna, 2011; Zumeta, 2001). As a policy, performance funding is largely viewed by state policymakers as a mechanism for initiating institutional action that will lead to better results in student performance and graduation.

Performance funding programs embody "theories of action" (Argyris & Schön, 1996) for producing particular student outcomes. The concept of a theory of action closely parallels those of "policy instruments," which are the mechanisms for translating goals into action (McDonnell & Elmore, 1987, p. 134); and "social mechanisms," which

are causal processes through which an outcome is to be brought about (Colyvas, 2012; Hedstrom & Ylikoski, 2010). One of the most important policy instruments for making performance funding work effectively is expanding the capacity of colleges to engage in organizational learning—that is, to effectively analyze their performance, determine where it is deficient, craft solutions, and evaluate the effectiveness of those solutions (Bensimon, Dowd, Longanecker, & Witham, 2012; Dougherty, Jones, et al., 2014b; Dougherty & Reddy, 2013; Dowd & Tong, 2007; Rutschow et al., 2011; Witham & Bensimon, 2012; see also Kezar, 2005; McDonnell & Elmore, 1987). To date, there has been very little conceptualization or research on what aids and hindrances influence the capacity for institutions to engage in organizational learning for purposes of effectively responding to performance funding. In the Community College Research Center's larger performance funding study, we found that this area has been largely ignored by the framers of performance funding policy (Dougherty, Jones, Lahr, Natow, Pheatt, & Reddy, 2014a, b). This lapse is problematic: while the capacity for organizational learning is not explicitly discussed in most performance funding policy, it is a necessary feature of an effective institutional response to performance funding.

In order to bring to the surface the role of organizational learning in response to performance funding, this paper explores the deliberative structures and processes institutions utilize to discuss what institutional practices to adopt in order to improve student outcomes and what conditions aid and hinder the operation of those deliberative processes. Our investigation found that colleges use a variety of deliberative structures, including both their general administrative structures and more specialized and evanescent structures such as strategic planning committees and accreditation review committees, to engage in organizational learning. The aids and hindrances to effective deliberation that colleges encounter principally involve organizational commitment and leadership, effective communication and collaboration, timely and relevant data, and enough time for deliberation. Our findings are based on 222 interviews with senior administrators, middle-level academic and non-academic administrators, and department chairs from nine community colleges and nine four-year colleges in three states: Indiana, Ohio, and Tennessee.

Below, we first review the research literature pertaining to performance funding and organizational learning. We next discuss the research questions and methods that informed our investigation. Then we present our findings on deliberative structures and the aids and hindrances they encounter. Along the way, we examine how the prevalence of those deliberative structures and aids and hindrances varies by type of institution (community college or four-year institution). We conclude with policy recommendations based on our findings.

2. Review of the Literature

2.1 Performance Funding in Higher Education

The existing research literature on performance funding has not paid much attention to the details of its implementation (for exceptions, see Dougherty et al., 2014a; Dougherty & Reddy, 2013; Jenkins, Ellwein, & Boswell, 2009). The focus instead has been on what forms performance funding programs do take and should take, why they have arisen, and what their impact on student outcomes has been (Burke, 2002; Dougherty & Natow, in press; Rutherford & Rabovsky, 2014; Tandberg & Hillman, 2014).

And even when attention has been devoted to implementation, there has been very little attention to the ways that colleges and universities deliberate on how they will respond to performance funding. However, there are other literatures that provide useful perspectives on this aspect of performance funding. One is the literature on the role of data in state policy making and institutional decision making. Another is the literature on organizational learning.

2.2 Data-Driven Decision Making in Higher Education

There is a small body of research literature on data-driven decision making in higher education. It has produced a number of findings about factors that are conducive to the use of data in driving organizational decision making, ranging from availability of the right kinds of data, a data infrastructure that can produce those data, and organizational commitment and culture to support effective data usage.

The most immediate factor is the simple availability of the right kinds of data to the right kind of people. The right kinds of data should be disaggregated by student background, address outcomes at key points in the student career (for example, the transition from developmental education to regular college courses), and—if possible—allow a longitudinal, cohort-based analysis of student progress (Allen & Kazis, 2007, pp. 3, 9; Dowd & Tong, 2007, p. 98; Rutschow et al., 2011, pp. 39, 44–45; Witham & Bensimon, 2012, p. 61). The right recipients of data should include not just institutional researchers and senior administrators but also faculty and middle-level administrators (Allen & Kazis, 2007, pp. 2, 3, 5–8; Rutschow et al., 2011, p. 39). In fact, the literature has recommended that faculty and mid-level administrators should not only be data users but also data producers, either deciding on what kind of data they need or being provided with the tools to produce it (Allen & Kazis, 2007, pp. 7–8; Jenkins, 2011, p. 33; Kerrigan, 2014, p. 356; Witham & Bensimon, 2012, p. 60).

The wide availability of the right data requires in turn the right organizational infrastructure. Part of this infrastructure involves the presence of an informational-technology system that is capable of producing the right data. The registration systems of many colleges often cannot support the kind of data capture and reporting needed to produce the data described above (Allen & Kazis, 2007, p. 5; Kerrigan, 2014a, p. 356; Morest & Jenkins, 2007, pp. 3, 7, 12–13; Rutschow et al., 2011, pp. 38, 43–44). Another part is the possession by faculty and administrators of the necessary skills to analyze research data and even to produce such data (Allen & Kazis, 2007, p. 6; Kerrigan, 2014b; Rutschow et al., 2011, p. 39). A third aspect of the right infrastructure involves the presence of an institutional research (IR) office that has enough personnel skilled in data analysis and oriented to serving the data needs of various constituencies at a college (Allen & Kazis, 2007, pp. 2, 6–8; Morest & Jenkins, 2007, pp. 3, 7, 12; Rutschow et al., 2011, pp. 39, 42). The institutional research office needs to seek out the data needs of specific college organizational units, produce data tailored to those needs, and train members of those units in analyzing the data (Allen & Kazis, 2007, pp. 6–7; Rutschow et al., 2011, p. 39). A final and fourth aspect of organizational infrastructure involves communication channels as a form of social capital. This can take the form of participation in organized discussions about student success (Kerrigan, 2014b).

All of the above requires organizational commitment and cultural support. Organizational commitment—particularly by college leaders, but also by faculty—is important to supporting data-driven decision making. Without it, the data-use prerequisites above either do not develop or do not eventuate in effective use of data (Allen & Kazis, 2007, pp. 2–5, 8; Dowd & Tong, 2007, p. 95; Kerrigan, 2014a, pp. 355, 356; Kerrigan, 2014b; Morest & Jenkins, 2007, pp. 3, 12–13). This organizational commitment can take such forms as prominent mention of data by college leaders, a willingness to publicize negative data, and a prominent position of the institutional research office in the organizational chart of a college (Allen & Kazis, 2007, pp. 5–7). But to make the data usage have real bite, the organizational culture needs to support it. It is easy for the data analysis to fail to critically examine organizational routines and to lead to actions that only tinker with those routines. To more deeply question and change organizational practices, it is necessary that institutions encourage a "culture of inquiry" involving openness to examining how the institution is causing or failing to address the problems of its students. Such a culture requires an openness to information and perspectives that contradict the image the institution has of how well it is realizing its values and how much it is contributing to student success (Witham & Bensimon, 20012). This distinction between deeper and shallower organizational analysis is basic to the literature on organizational learning, to which we now turn.

2.3 Organizational Learning Theory

Organizational learning has been defined in a variety of ways. Most of these definitions describe processes and practices developed by an organization to identify problems and correct them. For example, Argyris and Schön (1996) describe organizational learning as "the detection and correction of error." Somewhat differently, Barnett (n.d.) describes organizational learning as "an experience-based process through which knowledge about action-outcome relationships develops, is encoded in routines, is embedded in organizational memory, and changes collective behavior."

Argyris and Schön (1996) make a fundamental distinction between "single loop" and "double loop" organizational learning. The first does not question organizational goals and basic practices but instead looks for technical solutions to gaps between goals and performance, while the second does question those goals and practices. Argyris and

Schön (1996) define single loop learning as "instrumental learning that changes strategies of action or assumptions underlying strategies in ways that leave the values of a theory of action unchanged" (p. 20). As Bess and Dee (2008; p. 675) note, single loop learning attempts to correct mistakes but doesn't explore why the mistakes occurred to begin with (see also Witham & Bensimon, 2012, p. 49). Double loop learning puts organizational goals and fundamental structures and processes in question. Argyris and Schön (1996) have defined double loop learning as "learning that results in a change in the values of theory-in-use, as well as in its strategies and assumptions" (p. 21). For example, double-loop learning can occur through "organizational inquiry that creates new understandings of the conflicting requirements—their sources, conditions, and consequences—and sets new priorities and weightings of norms, or reframes the norms themselves, together with their associated strategies and assumptions" (Argyris & Schön, 1996, p. 25). As Witham and Bensimon (2012) note, "a culture that supports 'double-loop' learning is one that focuses on institutional values and practices, brings invisible issues (e.g., racial inequities) to the surface, and considers how conventional problem-solving approaches may themselves contribute to the problem" (p. 49).

The organizational learning literature has much to say about what structural and cultural/psychological factors facilitate or hinder an organization's engagement in effective organizational learning intended to lead to organizational change. Argyris and Schön (1996) state: "An organization's learning system is made of the structures that channel organizational inquiry and the behavioral world of the organization, draped over these structures, that facilitates or inhibits organizational inquiry" (p. 28). Argyris and Schön (1996) describe the structures of organizational learning as including channels of communication, information systems, and "procedures and routines that guide individual and interactive inquiry; and systems of incentives that influence the will to inquire" (p. 28; see also Lipshitz, Popper, & Friedman, 2002, p. 82). More specifically, the organizational learning literature points to several key elements of structures for organizational learning that include defined channels of communication, such as forums for discussion and debate, and provision for formal and informal patterns of interaction (Argyris & Schön, 1996, p. 28; Kasl, Marsick, & Dechant, 1997, p. 236; see also Yorks, 2005; Yorks, Neuman, Kowalski, & Kowalski, 2007). Another important structural

element is institutional research and information technology capacity, involving personnel to analyze and use data and develop and refine strategies (Argyris & Schön, 1996, p. 28; Jenkins, 2011, p. 38; Rutschow et. al., 2011, pp. 38-39, 116, 118).

For Argyris and Schön (1996), organizational learning structures need to be supported by a behavioral world that includes "the qualities, meanings, and feelings that habitually condition patterns of interaction among individuals within the organization in such a way as to affect organizational inquiry—for example, the degree to which patterns of interaction are friendly or hostile" (p. 29; see also Lipshitz et al., 2002, pp. 81, 87–90). More specifically, the psychological and cultural factors that facilitate organizational learning include certain specific norms and values. One is a norm of open inquiry and debate. For example, members of the organization "are encouraged to challenge their points of view by becoming critically reflective of the assumptions held in the organization about the content and processes of problem solving that are relevant to performance" (Yorks & Marsick, 2000, p. 274; see also Argyris & Schön, 1996, pp. 82–83, 90–101; Kasl et al., 1997, pp. 230, 240–241; Kerrigan, 2010, pp. 159–161; Lipshitz et al., 2002, pp. 85–86). Another norm is a tolerance of error if it is in the service of organizational change. This includes a climate of psychological safety, that is, a "state in which people feel safe to make errors and honestly discuss what they think and how they feel" (Lipshitz et al., 2002, p. 87; see also Kerrigan, 2010, pp. 184–186; Yorks et al., 2007, pp. 363–368). Yet another is a commitment to learning and professional development. The organization makes an investment in education and training and provides time and incentives for learning (Jenkins, 2011, pp. 9, 15, 34; Lipshitz et al., 2002, pp. 88–89; Rutschow et. al., 2011, pp. 88–91, 98, 105–106).

2.4 Conceptual Framework

Based on our review of the literature, it is clear that in order to understand the role of organizational learning in institutions' responses to performance funding we need to attend to several features of organizational functioning. The literature on data-driven decision making points us toward investigating how well institutions are able to secure and widely distribute the right kinds of data, which in turn depends on their having the necessary IT and IR infrastructure, organizational commitment, and supportive organizational culture. The literature on organizational learning deepens that analysis by

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pointing to the importance of organizational structure (defined channels of organizational communication and IT and IR capacity) and organizational culture (particularly norms of open inquiry and tolerance of error, a climate of psychological safety, and a commitment to learning and professional development).

3. Research Questions and Methods

3.1 Questions

Drawing on the theoretical perspectives above, this paper addresses three questions of importance to understanding the role of organizational learning in universities and community colleges responding to state performance funding demands:

- What deliberative structures do the institutions utilize in order to engage in organizational learning? More particularly, to what degree do they rely on pre-existing organizational structures and routines and to what degree do they elaborate new ones?

- What aspects of the institutions aid or hinder attempts to engage in organizational learning to respond to performance funding demands?

- How do the above structures and aspects differ by institutional type, particularly community colleges compared with university?

3.2 Methods

The data for this study come from interviews and documentary analysis we conducted at 18 community colleges and public universities in three states: Indiana, Ohio, and Tennessee. These data were coded and analyzed using the Atlas.ti software for qualitative data analysis.

Case selection: The states. We chose Indiana, Ohio, and Tennessee because they differ substantially in their performance funding histories and political and socioeconomic structures (see Appendices A and B). Tennessee was the first state to establish performance funding (in 1979), with Ohio acting in the 1990s (1995), and Indiana still later (2007). All these programs initially took the form of performance

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funding 1.0, providing a bonus over and above base state funding for public higher education. However, Ohio and Indiana in 2009, and Tennessee in 2010, established performance funding 2.0 programs that embed performance funding indicators in base state funding, rather than providing a bonus (see Appendix B for more detail). Except in Tennessee, the new performance funding programs replaced the previous ones; Tennessee has retained its old program and uses it as a quality control measure.

Ohio and Tennessee connect a much larger proportion of their state funding for higher education to performance indicators than does Indiana. About four fifths of their base state funding is connected to performance indicators, compared with 6 percent in Indiana (see Appendix A).

The states also differ in how they govern their community college systems. Indiana and Tennessee have more centralized public systems than does Ohio. For example, Indiana places all its community colleges under one governing board for the Ivy Tech system, whereas the Ohio community colleges each have separate governing boards (McGuinness, 2003).

The states also vary significantly in political culture and structures (Berry & Berry, 2007; Gray, Hanson, & Kousser, 2012). Tennessee and Indiana are above average in the conservatism of their electorates, while Ohio is very near the national average (Erikson, Wright, & McIver, 2005). Ohio is well above the mean in the institutional powers of the governor, whereas Tennessee is well below (Ferguson, 2012). On legislative professionalism, Ohio's legislature is much higher than Tennessee's and Indiana's (Hamm & Moncrief, 2012). The states also differ in degree of party competition, with Ohio and Tennessee being more competitive than Indiana (Holbrook & La Raja, 2012).

Finally, the states differ considerably in their social characteristics: population, income, and education. Ohio's population is larger, wealthier, and better educated than those of Indiana and Tennessee (see Appendix A).

Case selection: Community colleges and universities. The three community colleges and three public universities selected for the study in each state differ by their expected capacity to respond to performance funding). For community colleges, we picked colleges in the top, middle, and bottom third in their states in expected capacity to

respond effectively to performance funding, based on college resources (revenues per student full-time equivalent), data-analytic capacity (ratings by two experts in each state), and number of at-risk students (percentage of students receiving Pell grants and percentage of minority students).[1] We rated the community colleges on each of these three dimensions as being in the top, middle, and bottom third, summed the ratings, and picked one college in each state from each group. We labeled these colleges as being "high," medium," or "low capacity." For the public universities, we picked two institutions that were high and low in their expected capacity to respond to performance funding. These ratings were based on the same criteria used to pick the community colleges. Our third university in each state is a research-intensive institution that is high in expected capacity.

Indiana presented a unique case because of the highly centralized nature of its community college system. Indiana has one community college—Ivy Tech Community College—that is the largest singly accredited statewide community college system in the country. Each year, the college enrolls nearly 200,000 students across 30 campuses, which are distributed across 14 regions. Our sample includes three of these campuses and, as in Tennessee and Ohio, we selected campuses that differ in their expected capacity to respond to performance funding, based on the same measures described above.

Data gathering and analysis. With data triangulation in mind, we conducted numerous telephone interviews in each state with a wide variety of actors and also thoroughly examined available documentary data. Among our documentary sources are public agency reports, newspaper articles, and academic research studies (books, journal articles, and doctoral dissertations). The interviews took place between August 2012 and April 2014. The community college interviews were conducted first, followed by the university interviews.

At each institution, we interviewed the following categories of people: senior administrators, including the president and the vice presidents reporting to the president; deans and other middle-level academic administrators; non-academic middle-level

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[1] The data for college revenues, percentage of students receiving Pell grants, and percentage minority students come from IPEDS (2011).

administrators, such as the director of institutional research; chairs of different departments representing a range of disciplines and degrees of exposure to outside accountability demands; and the chair of the faculty senate (see Table 1). We relied on the department chairs and the chair of the faculty senate to illuminate faculty opinion.

Table 1
Categories of College Personnel Interviewed

Non-Academic Personnel	Academic Personnel
President	Provost or vice president for academic affairs
Vice president for finance	Director of developmental education
Vice president or director for student services	Dean of arts and sciences or equivalent
Vice president or director for admissions and enrollment services	Two chairs of department within that school or division: one in humanities and social sciences and one in math and natural sciences
Director of institutional research	Dean of professional school or division
	Two chairs of departments within that school or division. One of them would be a program that is subject to strong outside accountability demands such as nursing
	Chair of the faculty senate

Table 2 presents the number of people interviewed at each college in each state. The interviews were semi-structured. While we used a standard protocol, we adapted it to each interviewee and to material that emerged during an interview. All interviewees were promised confidentiality, and we have masked their identities.

Table 2
Number of Interviewees

Institution	Indiana	Ohio	Tennessee	Total
Community college 1	14	12	12	38
Community college 2	10	13	12	35
Community college 3	10	13	14	37
University 1	10	11	12	33
University 2	13	15	12	40
University 3	14	15	10	39
Total	71	79	72	222

The interviews were transcribed, entered into the Atlas.ti qualitative data analysis software system, and coded. We also coded documentary materials if they were in a format that allowed it. Our coding scheme began with an initial list of "start" codes drawn from our conceptual framework, but we also engaged in open coding, adding and altering codes as necessary as we proceeded with data collection and analysis. To analyze the data, we ran queries in Atlas based on our key coding categories. Using this output, we created analytic tables comparing perceptions of the same actor, motive, event, or context by different interviewees or data sources (see Miles & Huberman, 1994). In the event of any major divergences between different accounts, we conducted additional interviews to resolve those discrepancies.

4. Findings About the Nature of Deliberative Structures

In our interviews, we asked respondents about what kind of deliberative process their colleges used to consider how to respond to the pressure from the state performance funding program for improved student outcomes. We asked this question in two contexts. First, we picked a particular change in organizational policy and practice that the institution had made to respond to performance funding and asked about what deliberative process the college had used in deciding to make that change. Secondly, we asked about what deliberative process the college used generally to decide how to respond to performance funding.

We discovered that across all 18 institutions in three states, institutions *do* have clear processes for deliberation about how to respond to performance funding demands. Indeed, institutions heavily rely on their established bureaucratic processes to investigate and make decisions about policy and practices that would improve performance funding outcomes. However, we also found that colleges frequently utilized more informal and temporary organizational structures—such as strategic planning committees or accreditation self-study task forces—in order to monitor their performance on state performance funding metrics and improve that performance. Hence, we provide an analysis below of the use of *general administrative deliberative structures* on the one

hand and of *special purpose deliberative structures* and *informal deliberative processes* on the other.

We define general administrative structures as deliberative structures that have been institutionalized in the central bureaucracy of the institution. They have a longstanding place in the administrative hierarchy, typically existed before performance funding was implemented, and most likely will continue if performance funding were to end. They take such forms as a designated position, such as vice president for student effectiveness; or regularly constituted groups, such as a president's or dean's council. Meanwhile, *special purpose deliberative structures* have been set up for a specific (and usually short-term) goal, are often newer, are not part of the main bureaucratic administrative structure, and are not intended to be permanent. They take such forms as strategic planning committees or accreditation self-study task forces. Finally, *informal deliberative structures* take such forms as groupings of like-minded people who on their own assemble to address student outcomes issues arising because of performance funding.

4.1 General Administrative Deliberative Structures

Our data show that, generally, across all 18 institutions, respondents reported general administrative structures and special purpose structures equally often (see Table 3). However, the relative balance between them varied across institutions, with community colleges relying more often on special purpose structures (this finding is discussed below). Informal deliberative structures were the least often reported.

Table 3
Structures for Deliberating on Responses to Performance Funding

Type of Structure	Indiana	Ohio	Tennessee	Total
General administrative structures	51	40	38	129
Special purpose structures	45	46	31	122
Informal deliberative structures	13	12	16	41
Total	109	98	85	292

Note. The unit of analysis is reports and not individuals. An interviewee may have mentioned more than one deliberative structure.

Several types of general administrative deliberative structures emerged from our data: designated staff positions in charge of improving student outcomes and standing committees that review data on student outcomes and decide how to respond. For example, a senior administrator at an Ohio community college described such a designated staff position:

> We also created a position that's focused on planning, and so that has allowed us to go back to your capacity question, that has allowed us to have someone who is focused on this 24/7. … This individual is very gifted in facilitating discussions and so a number of divisions will call her in to help facilitate a conversation around a specific issue. She then can come in and say "Here's the research. Here's the results that institutions have realized in this area or that area."

The standing committees can take several forms: executive meetings involving presidents and their vice presidents, general administrative meetings run by provosts or deans, departmental meetings, and college-wide standing committees. A dean at an Indiana community college described several such committees as being at work:

> I do know that in each region we have a vice chancellor of academic affairs. All of those people meet once a month and they do review the statistical data. In addition to that, the curriculum committees that meet in the fall and the spring review the statistical data. … The curriculum committees are really the groups [that are] charged with looking at the data and then deciding what worked and what didn't work and making changes.

Similarly, a dean at a Tennessee community college noted a variety of general purpose structures being used:

> [T]here's a vice president's council which makes some decisions and then we have a learning council which is more the academic deans and the directors of financial aid and admissions … all those folks who are the support for the academic side of the house. And so, yes, we come together and we talk about what performance funding indicators … what we want those to be, what we think we can reach, how much we want to put into this particular indicator and how much we want to put into that one. And

then we, as deans, take it back to our departments for
conversations and get inputs from our departments.

4.2 Special Purpose Deliberative Structures

We found several types of special purpose structures used for deliberating about
how to respond to performance funding pressure. They include the following: strategic
planning committees; special task forces, councils, and committees dedicated to specific
areas of concern such as retention, curriculum realignment, tutoring, and advising; and
accreditation planning committees (see Table 4).

Table 4
Special Purpose Deliberative Structures

Structures	Indiana	Ohio	Tennessee	Total
Strategic planning committees	11	12	9	32
Special task forces, councils, and committees	32	24	21	77
Accreditation planning committee	2	10	1	13
Total	45	46	31	122

Note. The unit of analysis is reports and not individuals. An interviewee may have mentioned more than one special
purpose deliberative structure.

Special purpose structures were often described by respondents as more inclusive,
drawing in more faculty and mid-level administrators and sometimes even students, as
illustrated in the following quote by a senior administrator for an Ohio community
college:

> The president's advisor to the dean's council [creates these
> projects] and that includes faculty representation,
> administrative representation, staff representation. So it's a
> somewhat formalized committee. And then it reaches out
> into the general faculty or staff for administration who
> aren't on that committee to join in especially if they have
> the expertise for the project that's moving forward.

Respondents often described special purpose structures as being used alongside
general administrative structures. For example, a special task force for reviewing

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retention strategies and outcomes may be convened as a result of an executive administrative order and report its findings and recommendations to senior administrators who have final say on which recommendations will be implemented. This process allows for a number of possibilities for including faculty and mid-level administrators in deliberations about institutional changes for improved outcomes.

4.3 Informal Deliberative Processes

Some deliberations took place outside of any particular structure at all. Respondents described informal discussions about addressing performance funding as occurring spontaneously, usually in response to an immediate or pressing need. They were not connected to any formal general administrative or special purpose structure put in place, but often were led by one or two person who were committed to addressing the issue with like-minded individuals who were in the units connected to the area of concern. A senior administrator at an Indiana university described this type of informal deliberative process:

> I was in a position where I was seeing lots of students who were high risk and vulnerable … I also had a call center that reported to me. I asked them to do an informal student [report] … there had been a background of complaining, but no one had taken it on as a primary issue. I took it on as a primary issue, I said let's get some data; I waved the data in everybody's faces. Our chancellor who is relatively new, he saw the data and it made him cringe so he has become a little bit of a nag too.

5. Findings About Variations in Deliberative Structures

Having explored the general patterns, here we examine how the patterns vary by type of institution. As can be seen in Table 5, a greater proportion of the responses from our community college respondents involved the use of special purpose structures.

Table 5
Variation in Use of Deliberative Structures by Type of College

Type of Structure	Community Colleges	As % of CC Responses	Universities	As % of University Responses	Total
General administrative structures	42	34%	87	52%	129
Special purpose structures	57	46%	65	37%	122
Informal deliberative structures	24	20%	17	11%	41
Total	123		169		292

It should be noted that many of the special purpose structures discussed by our community college participants were not primarily created to engage in deliberations about performance funding. Many of them were developed to address other policy initiatives but then became a college's device for deliberating on its responses to state performance funding demands. In Ohio, special purpose structures often developed as vehicles for accreditation self-studies. For example, an Ohio community college used its involvement with the AQIP (Academic Quality Improvement Process) initiative of the North Central Association of Colleges and Schools as one of its main vehicles to address the state's performance funding demands. A senior administrator noted:

> We are under the Higher Learning Commission [of the North Central Association] for our accreditation and AQIP is the Academic Quality Improvement Process. So it's a great model where you, as an institution, determine what matters most to you and your students and then you address those things and ways to improve them going forward. And so you're always identifying what your processes are. You are identifying what your goals are, what your processes are to achieve those goals, what the results of the process completion has been, and then taking those outcomes and analyzing those results and determining what you're going to do next to improve them and enhance them. It's mostly in the years that we've been an AQIP institution, our action projects have been related to student success, and they included a task force on mandatory placement, a task force on no late registration, and a task force on mandatory orientation.

Meanwhile, in Indiana, we found that the Achieving the Dream initiative of Lumina Foundation that the state community college system had joined provided a major basis for community colleges' deliberation on student outcomes. As a condition of participating in Achieving the Dream, colleges had to establish a college-wide committee to consider how to improve student outcomes. A senior administrator at an Indiana community college noted how this committee became a vehicle for deliberation on how to respond to performance funding:

> Once we joined Achieving the Dream … we convened panels of faculty and staff from the various regions to address individual issues like student orientation, individual academic plans, and these groups of faculty and staff came up with several proposals. … We have not to my knowledge had any meetings specifically for performance funding. We do have meetings on a regular basis though on, again, the Achieving the Dream goals. But this kind of similar, like I say, the performance funding has just kind of fallen [into a] one-to-one relationship with our Achieving the Dream efforts.

Regardless of which deliberative structures colleges have used, what factors affected how well they worked? What factors aided effective deliberation and which ones hindered it? We now turn to that question.

6. Findings About Patterns in Aids and Hindrances to Deliberation

Our interviews revealed particular processes and conditions that aid and hinder colleges' deliberations on how to respond to performance funding. In this section, we review the general patterns. In the next section, we examine how they differ by type of college.

Respondents identified several factors that aided and hindered effective deliberation on how best to improve student outcomes in the face of pressure from the state performance funding program. Using axial coding, we grouped these factors into themes. Our university and community college respondents identified the most important aids as the following: organizational commitment and leadership, communication and

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collaboration, time and feasibility, and timely and relevant data (see Table 6). The absence of these aforementioned aids emerged as hindrances. For example, many respondents felt that the absence of accurate data operated as a hindrance.

Table 6
Aids and Hindrances

Aids and Hindrances	As Aid	As Hindrance	Total Reports
Organizational commitment and leadership	28	18	46
Communication and collaboration	58	39	97
Time and opportunity to use data	11	48	59
Timely and relevant data	30	15	45
Total reports	127	120	247

Note. The figures above comprise number of reports, not the number of individuals who reported. An interviewee may have reported more than one aid or hindrance.

6.1 Organizational Commitment and Leadership

Institutional respondents in all three states often indicated that successful deliberation required commitment and leadership from both senior administration and faculty (Authors' Interviews IN Uni2 #3,11; IN Uni3 #2,4,7,17; OH Uni1 #1,3,9,13; OH Uni2 #5,7,13; OH Uni3 #5; OH CC3 #1,2,5,13; TN Uni1 #7,10; TN Uni3 #5; TN CC2 #9). We coded several factors identified by respondents in this category: leadership, commitment to improving institutional effectiveness, getting on the agenda for college discussion, capable staff, and professional development. Respondents who identified these factors generally expressed that it was important for senior administration not only to take initiative in guiding discussions and action around performance funding related outcomes, but also to keep these conversations on the institutional agenda and have them carried out by competent and committed staff. A senior administrator at an Indiana community college explained: "I think it's been the chair of that committee [that] means everything I think. … and the other thing is the participation of the provost. And in the first year there was a fairly strong chair and the provost was involved. And I think a number of things got done." A Tennessee university senior administrator echoed that sentiment:

I have these six committees reporting out to [the] chancellor every single month. What have you done, what [are] your top two or three priorities, and how are you going to measure it. As long as someone is watching it. Our staff meets Monday mornings for a couple of hours, for a couple of hours every Monday for as long as someone is watching it. If we stop watching it, it will fall by the way side.

When deliberations did not go well or did not take place at all, institutional respondents often cited a lack of commitment and leadership (Authors' interviews IN Uni2 #4,6; IN Uni3 #1; IN CC2 #13; OH Uni1 #14; OH Uni3 #17; TN Uni1 #3; TN Uni2 #9; TN Uni3 #6). For instance, an Indiana university senior administrator explained:

… I think that an inability to understand how to manage that resistance from leadership [presents a major obstacle]. So, corporate America has a whole … industry called *change management*. We don't have that, we need that. We need somebody to say change is going to happen, it's inevitable, and here's what we need to do to make it happen smoothly at our campus. … I think there is just an inability to know how to facilitate change in an organization of this size.

However, this lack of commitment and leadership was not solely placed at the feet of senior administration. As a department chair at an Ohio university noted, the lack of commitment could also come from faculty: "A lot of [the faculty] felt … they wanted to keep it the old way right. So it just took time to convince them. So I basically did it without the full support."

6.2 Communication and Collaboration

Communication and collaboration was the most frequently mentioned aid or hindrance to deliberation (Authors' interviews IN Uni1 #8,12; IN Uni2 #2,3,6,7,11; IN Uni3 #3,4,5,12,13,17; CC1 #12; CC2 #3, 10, 13; CC3#1; OH Uni1 #6,13; OH Uni2 #10,16; OH Uni3 #3,9,15; OH CC1 # 1,4,6,7,12; OH CC2 #11; OH CC3 #11,14; TN Uni1 #4,9; TN Uni2 #2,5,8,11,12; TN Uni3 #3,9,10; TN CC1 #3; TN CC2 #6,8,11,12). We coded these factors—communication, collaboration, and inclusivity—under the heading of communication and collaboration because they repeatedly emerged as

intersecting and overlapping themes when respondents discussed aids to deliberative processes. Communication and collaboration were usually expressed as necessary not only for identifying needs and problems across the institution, but also for gaining buy-in. When asked about aids or hindrances to deliberation on how to respond to performance funding, a head of the faculty senate at an Ohio university stated:

> One, the fact that we involved a lot of people and have tried to get a broad-base of support. But then also the fact that the leadership—the president, the provost, and the Board of Trustees—were willing to work with us in a very cooperative conversational kind of way, not telling what it had to be, but in discussion helping us agree on what those objectives should be. So the broad-based nature of it and then secondly the fact that the leaders allowed that to happen and participated in it.

This sentiment was echoed by a senior administrator at an Indiana community college:

> I think the piece that makes it effective is the cross-sharing in the department. The people will bring it back, the senior leadership will bring it back from Central [Office] to the regions, and they work within their team to implement. But then they give a higher level of cross-sharing in our senior leadership team. So we all have an idea of what is happening … and we are doing much better at seeing how that impacts the other areas as well.

We distinguish communication from collaboration by differentiating deliberative discussion and information sharing from actually working together on projects, task forces, and committees designed to address performance funding. However, as the quotation above demonstrates, communication is often closely tied to interactions that are considered collaborative in nature. Respondents who mentioned communication and collaboration as an aid, often conveyed a sense of greater inclusiveness of all sectors at a college (Authors' interviews IN Uni1 #8,12; IN Uni2 #3,6,11; IN Uni3 # 3,4,5,12,13; OH Uni1 #6,13; OH Uni2 #10,16; OH Uni3 #3,9; OH CC1 #1,4, 6,7,12; OH CC2 #3,11; OH CC3 #11,14;TN Uni1 #3,9; TN Uni2 #5,8,12; TN Uni3 #10; TN CC2 #3, 6). The way communication and collaboration engendered inclusiveness can be seen in the following statement by a senior administrator at an Ohio community college:

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> … the Academic Advisory, Policy Advisory Council [is]
> broadly representative and I have really stressed with the
> members that their role is to bring ideas from their
> constituents, their fellow department members, into the
> group and communicate in the other direction. So I think
> we have a good vehicle for communication and I'm also
> looking to that as a means of helping to educate faculty and
> others who may not be receiving all of this email, may not
> be attending the types of meetings that I am, where they
> hear about these things. So I don't think that we'll be able
> to make meaningful change unless we infuse knowledge
> about what's going on throughout our academic and student
> affairs areas, and so that's what we're looking to this group
> to do and help that way.

While communication and collaboration were identified as aids, those who felt the deliberative processes were dysfunctional or non-existent often cited the absence of communication and collaboration as a hindrance (Authors' interviews IN Uni2 #4,6; Uni3 #7,17; IN CC2 #18;OH Uni1 #14; OH Uni2 #13,14,16; OH Uni3 #3,4,15; OH CC1 #9; OH CC2 #7; OH CC3 #10; TN Uni1 #9; TN Uni2 #12; TN Uni3 #2,3). As a senior administrator at an Indiana university explained:

> I think it would be more effective if the people, who we are
> relying on to actually change the way they think about
> education, are at the table. When you just have a lot of big
> heads at the table, all you can do is boss people around. We
> can't change minds. … I would like to see more of those
> conversations with faculty.

Others felt that the failure to communicate led directly to a lack of buy-in and participation necessary for successful deliberations. As a Tennessee university senior administrator stated: "I think programs that don't have the kind of cross-institutional participation, dialog, communications tend to be less likely to succeed, unless they are very targeted to a specific population."

6.3 Time and the Opportunity to Implement New Policies and Practices

Having enough time to gather the necessary data and the opportunity to use it in the deliberation process comprised an especially prominent theme for our Indiana interviewees (Authors' interviews IN CC3 #1, 5, 6; IN Uni3 #4; IN CC1 #13; IN CC2 #2,

5, 18; OH Uni1 #14; OH CC2 #2a; TN CC3 #9). Interestingly, when time and opportunity were mentioned as aids to deliberation, they were often linked to having a small size mid-level staff, allowing easy communication. As a senior administrator at an Indiana university explained:

> Well in our particular case it's that we have a very small administrative staff that's physically collocated right next to each other. We see each other every waking moment of every day, so … it's not like I've got to walk across campus or schedule a meeting. There's a lot of informal, incidental communication that keeps the pathways of information flowing.

This view about the benefits of a small staff was echoed by a department chair at an Ohio university:

> … in instances that don't require a lot of broad discussion or things that maybe don't have such a huge financial impact, keeping the participants small and allowing it to move forward in a timely fashion is one way that it makes it work effectively.

While time and opportunity were the least mentioned aids, the lack of both of these factors was the most frequently cited hindrance (Authors' interviews IN Uni3 #4; IN CC1 #13; IN CC2 #2,5,18; IN CC3 #1,5,6; OH Uni1 #4,6,8,9,13; OH CC2 #2a; TN Uni1 #10; TN Uni2 #8,9; TN Uni3 #4,6,9; TN CC3 #9). Many perceived a limit on the amount of time an institution could spend in deliberations because necessary changes need to be implemented fairly quickly in order to produce improved results. A departmental chair at an Indiana community college noted:

> I think sometimes, from my level and my perspective, we'd like a little bit more time to kind of get comfortable and do more research. Sometimes the timeline is pretty short from when we hear about a change to when we have to implement the change. Now that does depend on different programs. I mentioned the co-req [co-requisite developmental education model] was a very gradual transition. I suspect, though, that that started before the performance funding model started. … But there have been a couple of other changes or initiatives that have seemed to come more quickly, you know, with a quick timeframe for

us to implement those changes. So that's been a little bit of a challenge.

An Ohio university academic dean amplified the previous individual's sentiments:

> What is harder is really the timing issue. … I think the change in the formula—even though we were probably aware this is happening—but it changed pretty rapidly this last year. We could see that if we were not improving quickly we will lose a lot of the state funding. So everything had to be done very quickly. And I think that was very stressful for a lot of people. Now we have to change a lot of things, a lot of procedures, how we address some of the students. The timing issue is really making it … I don't know if it made it harder, but definitely more stressful for a lot of people.

6.4 Timely and Relevant Data

The time pressures described above make it important that the individuals making decisions receive the right data when they need it. Many of our institutional respondents indicated that an important aid to deliberation was to receive *timely* and *relevant* data (Authors' interviews IN Uni1 #4; IN Uni3 #1,3,17; IN CC1 #6,7,12; IN CC3 #9,13; OH Uni1 #9; OH CC1 #3; OHCC2 #1,6,7,8; OH CC3 #2,5; TN Uni1 #5,6; TN Uni2 #1,5; TN CC1 #4; TN CC2 #6,7).

Respondents complained of having old data that gave them little insight into what types of needs they should be discussing. A Tennessee mid-level community college administrator explained:

> [W]e have one institutional researcher who actually spends part of her time doing something else. Going to her and asking for data, we get the data as quickly as she can produce it, but often it's too late to implement it for that semester or for that funding realm. We could use some help there.

A mid-level administrator at an Indiana university echoed that point:

> The latest data we have is for the 2009 cohort. Okay, so for that first target year, we're going to be looking at a group that's already been here for two years. That's kind of a hard group to effect a change with if they've already been here

for two years. You know, we may have already lost the
bulk of those students.

Respondents also indicated that they needed data that was specific to their
situation in order to make good decisions as a Tennessee university senior administrator
explained:

> Our various councils have looked at what are the clusters of
> questions in which we seem to be challenged with our
> students. The problem has been to take those institution-
> wide data with all of the issues relative to rate of
> participation in the assessment itself, and how do you drill
> down with any kind of face validity to a departmental
> level? And so I think there have been issues of councils,
> let's say of provosts and deans and others sitting around the
> table and looking at some of these aggregate data. I think
> because it was, just taking the NSSE [National Survey of
> Student Engagement] outcomes as an example, it was as if
> to say "All right, to what extent is what's happening in the
> English department as opposed to the math department
> contributing to what those outcomes were?" Since you
> couldn't do that, I think it led to … not being able to
> determine exact cause-and-effect factors associated with
> [outcomes].

Our interviews indicate that the following factors are important to creating
capacity for producing timely and relevant data: size and skills of the institutional
research (IR) office, IR office outreach to potential data users, and IR office efforts to
build up the research skills of faculty and staff (see Table 7).

Table 7
Reports on Limited Institutional Research (IR) Capacity

IR Category	Number of Reports at Community Colleges	Number of Reports at Universities	Total Number of Reports Mentioning IR	Number of Community Colleges at Which Respondents Mentioned IR (out of 9)	Number of Universities at Which Respondents Mentioned IR (out of 9)
Limited size and capacity of the IR office	41	23	64	9	7
Limited IR office proactive outreach	43	48	91	8	9
Limited IR office training of faculty and staff	47	33	80	8	7

Limited size and capacity of the institutional research office. Many of our respondents noted that although their institutions wanted to do more to provide data, the IR staff was limited in size and capacity to do more (Authors' Interviews IN Uni2#1, 2, 3, 4, 5; IN CC1 #5, IN CC2 #17; IN CC3 #4,6,7;OH Uni1 #1,3,4; OH Uni2 #11,14; OH Uni3 #5; OH CC1 #15; OH CC2 #2,6,7,8,9,10,11; OH CC3 #1, 2, 6, 7,1 0,1 3,1 4;TN Uni1 #4,5,6,8,9,10,11,12; TN Uni2 #8; TN Uni3 #6,7,8; TN CC1 #1b,2,3,4,5,7,8,9,10,11; TN CC2 #1b,2,4,6,7,9,10; TN CC3 #2,6,9,14). A faculty member at an Ohio community college noted the limitations of the college's institutional research capacity: "He's only one guy. There's been an increase in the amount of work that he's putting out to show us, but there's been no increase in other people coming in to help."

Limited IR office proactive outreach. Many of our respondents indicated that the institutional research (IR) office at their college was responsive in providing data when it was requested. However, only a few respondents indicated that institutional research offices *proactively* reached out to determine their data needs and offer data reports tailored to their particular information needs (Authors' Interviews IN Uni1 #5,6; IN Uni3 #1,3,7,9; IN CC2 #3,9,10,18; IN CC3 #2; OH Uni1 #9; OH Uni3 #3,4; OH CC1 #8; OH CC2 #2,5,8,9,10; OH CC3 # 2,15; TN Uni1 #3; TN Uni2 #4,6,8,11; TN Uni3 #3; TN CC1 #4,12; TN CC2 #2,3,4,5; TN CC3 #5,7). According to a department chair at an Ohio university: "The main IR areas are in the [campus central] offices and they do not

reach out to us. We have to ask them for information, and we're often at the end of the line to get it." Similarly, a prominent faculty member at an Indiana university noted:

> There's very little exchange between institutional research and the department level. I know that when data [are] required or requested, typically, those requests [are] process[ed] through a dean's office and then provided from a dean's office, maybe through the help of a chair. But very rarely is it a direct contact between institutional research and a chair or a program coordinator.

Limited institutional research office training of faculty and staff. Another way that faculty and staff can get access to student outcomes at their institutions is to conduct analyses of their own. Several of our respondents noted that their institutional research offices were helpful in providing training in data analysis. Still, many of our respondents—particularly at community colleges— reported that they had not seen or been made aware of efforts to help faculty and mid-level administrators better understand and analyze student outcomes data (Authors' interviews IN CC1 #5,7,9, 10,12; IN CC2 #1,13,17; IN CC3 #6,7,9,10; OH CC1 #3,6,7,16; OH CC2 #5,7,9,11; OH CC3 #1,5,9; TN CC1 #11,12; TN CC2 #1b,2,9,11,14; TN CC3 #2,12,14). When asked, "Have there been any efforts at the college to help improve the ability of faculty and staff to analyze and interpret some of the data?" a mid-level administrator at a Tennessee community college replied:

> No. I've sat in on some committees where I'm confused about some of the data. You know, there's been an effort when I'm in a meeting and I ask a pointed question, but not overall just general, "Let us help you interpret and understand." No.

An Ohio community college department chair said much the same:

> I don't think the college has done anything to try to help faculty analyze it. I think at the staff level … they've allocated more of their time to specifically look at these indicators and to report those out because they know the importance of them. … I don't think there's any faculty who are really involved in analyzing the data.

7. Findings About Variations in Aids and Hindrances

While the universities and community colleges in our study share a lot of similar experiences regarding aids and hindrances to deliberation on how to respond to performance funding, there were also differences between community colleges and universities. One of the most striking differences immediately apparent is the response rate. University respondents were more likely to provide an answer to our questions about aids and hindrances (see Table 8).

Table 8
Aids and Hindrances by Type of Institution

Aids and Hindrances	Community Colleges	% of CC Total	Universities	% of University Total	Total Responses
Organizational commitment and leadership					
As aid	6		22		28
As hindrance	8		10		18
Total	14	14%	32	22%	46
Communication and collaboration					
As aid	22		36		58
As hindrance	17		22		39
Total	39	38%	58	40%	97
Time and feasibility					
As aid	9		2		11
As hindrance	15		34		49
Total	24	23%	36	25%	60
Timely and relevant data					
As aid	20		10		30
As hindrance	6		9		15
Total	26	25%	19	13%	45
Grand total	103	100%	145	100%	248

As can be seen, our university and community college respondents differed principally in how often they mentioned organizational commitment and leadership and timely and relevant data. University respondents more often mentioned the first, while our community college respondents more often mentioned the second. The greater university emphasis on organizational commitment and leadership may reflect the greater importance it has for moving large, complex organizations with many different subunits

with different data demands at their institutions. We are not clear on how to explain the greater community college emphasis on timely and relevant data, especially when most of the community college mentions involve having been aided by access to such data, yet we would expect that they would be less likely to have this, given their often smaller institutional research offices.

8. Summary, Conclusions, and Recommendations

If the goal of performance funding is to encourage institutional change that will promote more efficient and successful practices that result in better student outcomes, organizational learning is a necessary component of improvement efforts. Colleges and universities need to deliberate on their educational processes, determine where improvements are needed, devise solutions, and evaluate those solutions. They also need support from the states in developing their capacity for organizational learning. Below is a summary of the findings of the study reported here on the aids and hindrances to organizational learning, followed by recommendations for both institutions and states to promote such learning

8.1 Summary and Conclusions

The study described in this report examined the various structures used for deliberations on improving student outcomes in 18 colleges in three states. As a first approximation, we distinguished among three types of structures: *General administrative structures* comprise designated positions whose occupants are in charge of improving student outcomes and standing committees that review data on student outcomes and decide how to respond. *Special purpose deliberative structures* include strategic planning committees; special task forces, councils, and committees dedicated to specific areas of concern such as retention, curriculum realignment, tutoring, and advising; and accreditation planning committees. *Informal deliberation* structures function outside of any particular formal structure; they include forums for discussions and decisions about addressing institutional needs related to performance funding that occur spontaneously, usually as a result of an immediate or pressing need. Each of the 18 institutions typically

used all three kinds of deliberative structures, but there was a strong tendency for community colleges to rely much more heavily on special purpose structures than did public universities.

Institutional respondents cited many factors that contributed to aiding or hindering the deliberative processes necessary for addressing performance funding demands. These factors could readily be grouped in broad themes: *organizational commitment and leadership*, *communication and collaboration*, *time and opportunity*, and *timely and relevant data*. University respondents more often mentioned organizational commitment and leadership than did community college respondents, but the opposite held for timely and relevant data. The greater university emphasis on organizational commitment and leadership may reflect the greater importance these have for effecting change in large, complex organizations with many different subunits with different data demands. Our data did not readily shed light on the reasons for the greater community college emphasis on the availability of timely and relevant data, especially since our community college respondents more often mentioned it as an aid they had experienced than as a hindrance they had encountered.

Below, we lay out recommendations for how states could provide support for institutions to engage in more effective organizational learning.

8.2 Recommendations[2]

Improve Institutional Research (IR) Capacity

- States should provide colleges and universities with funding to hire additional researchers with the skills to conduct the types of analyses necessary to drive institutional improvement. This funding could also be directed toward collaboratives—such as the Research and Planning Group for California Community Colleges—that help colleges with limited research capacity.

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[2] This section draws on a Community College Research Center policy brief (Community College Research Center, 2015). See also Bensimon et al. (2012); Dowd and Tong (2007); Jenkins et al. (2009); and Witham and Bensimon (2012).

- States should sponsor training for institutional researchers at state-sponsored institutes. Institutional researchers should be trained in data collection and analysis and in how to tell a story with data.

- States should sponsor training for other college staff and faculty. Staff and faculty throughout institutions must also have the ability to use data to inform their practices and processes.

- States may also find it useful to build their own capacity for data collection and analysis so that they can conduct at the request of institutions timely analyses of institutional student outcomes.

Improve Institutions' Information Technology (IT) Capacity

- States should provide funding for institutions to bolster their IT resources, and provide advice on what type of IT infrastructure institutions need to collect and analyze student performance data. If need be, the costs could be covered by the state budget for capital funding.

- States should also build up their own IT infrastructure for data gathering, which can serve as a resource for institutions with low IT capacity.

Help Institutions Consider Avenues for Change

- States should sponsor discussions of organizational changes in response to performance funding. College leaders would benefit from hearing about the experiences of other institutions that are further along in responding to performance funding, and from learning about the research findings on organizational change in higher education. It would be particularly useful for institutions finding it difficult to make

the move from single-loop learning focused on narrow, technical changes to double-loop learning focused on critically examining institutional goals and fundamental structures and practices (see Bensimon et al., 2012 and Dowd & Tong, 2007).

- State should sponsor communities of practice involving similar institutions. These communities can support institutions in collaborating to improve student outcomes rather than competing with each other.

Provide Time for Institutions and States to Adjust to New Expectations

- Institutions need time to plan and adjust to new funding formulas. Performance funding should be phased in gradually, or policies should incorporate a "learning year" before performance-based funding allocations go into effect (see Jenkins, Ellwein, & Boswell, 2009).

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Appendix A

Characteristics of the Three States Studied

Characteristic	Indiana	Ohio	Tennessee
1. Year PF adopted			
• PF 1.0 program	2007	1995	1979
• PF 2.0 program	2009	2009	2010
2. Public higher education sectors covered by PF 2.0 program	2 and 4 years	2 and 4 years	2 and 4 years
3. PF 2.0 (outcome indicators) share of state public higher education funding	6% of state higher education funding in FY 2013-2014.	80% of university funding and 50% of community college funding in FY 2013-2014	About 85–90% of state appropriations for higher education, with the rest accounted for by utilities, major equipment, etc.
4. State higher education governance structure at the time of enactment of PF 2.0 program			
• State coordinating board for all public higher education in the state	X	X	X
• Public universities: Governing boards for *each* public university or university system in state	X	X	X (U of Tennessee 5 campuses)
• Public 2-year colleges: Governing board for *all* public 2-year colleges	X		X (all public 2-year colleges & non-UT universities)
• Public 2-year colleges: Governing board for *each* public 2-year college		X	
5. Population (2010)	6,484,000	11,537,000	6,346,000
6. Personal income per capita (2010)	$34,943	$36,395	$35,307
7. Persons 25 years and over with bachelor's degree or more (2009)	22.5%	24.1%	23.0%

Sources:
1, 2. Dougherty & Reddy (2013).
3. Authors' interviews.
4. McGuinness (2003) and authors' interviews.
5. U.S. Bureau of the Census (2012).
6. U.S. Bureau of the Census (2012). Figures are in current dollars. U.S. average is $40,584.
7. U.S. Bureau of the Census (2012). Average for the United States is 27.9 percent.

Performance Funding Programs in Indiana, Ohio, and Tennessee

The performance funding (PF) programs in Indiana, Ohio, and Tennessee all involve embedding performance funding indicators in the base state funding for higher education. However, the three states differ considerably in the amount of state funding based on performance indicators and in the precise way they embed the indicators. Tennessee and Ohio use a formula to determine state funding for higher education operations, with about four fifths of the funding of those operating appropriations based on performance indicators. In Indiana, performance funding involves a much smaller amount (6 percent of state operational funding), and that funding involves both bonus funding and withheld funding that is paid back based on performance.

Indiana

Indiana first adopted performance funding in 2007 in the form of a bonus on top of the base state funding for higher education (HCM Strategists, 2011). However, this program was quickly replaced in 2009 by a new program in which 5 percent of each institution's base allocation would be withheld and then all or some of it would be awarded based on performance on certain metrics. In the 2011–2013 biennium, this 5 percent withholding amounted to roughly $61 million dollars (Indiana Commission for Higher Education, 2013, p. 8). In 2013, the state general assembly decided to hold PF at 6 percent for both fiscal years 2014 and 2015 but changed the allocation method. The 6 percent devoted to performance funding was split between 3.8 percent in "new money" and 2.2 percent from withholding funds from institutional appropriations. The portion withheld is put into a funding pool and institutions can then earn back some or all of that withheld funding depending on how well they perform during the year and how well other institutions perform (Authors' IN interviews).

The PF indicators are designed to measure change over time, based on comparing two- three-year averages of institutional performance. For each metric, the PF formula takes average performance across three years and compares it to the three-year average for the preceding three years (e.g., for determining funding withheld in 2012, average number of completions each year between 2009–2011 compared to average number of

degree completions each year between 2006–2008). If an institution's performance does not improve, the funding formula simply counts their improvement as "zero." An institution's allocation through the PF formula is based on how well its performance compares with all other comparable institutions. For the 2013–2015 biennium, it is possible for the overall effect of PF to be a loss if an institution (1) wins only a small portion of the new money bonus and (2) is not able to earn back all of the 2.2 percent that is withheld to help fund the PF formula. Moreover, an institution is not funded for its performance if its overall rate of completion drops between the two three-year averages (even if the overall number of completions increased). In total, a school's eventual state appropriation includes base funding (which can fluctuate year to year based on enrollment), new money that is earned on the basis of the performance indicators, and the portion of the funds withheld the year before that the institution was able to win back based on its performance in the previous year.

The PF indicators Indiana has used have changed each biennium. However, certain indicators have persisted (Indiana Commission for Higher Education, 2013):

- Change in number of degrees awarded (2009–2011, 2011–2013, 2013–2015 biennia).

- Change in number (or rate) of resident, undergraduate, first-time, full-time students graduating on-time (2009–2011, 2011–2013, 2013–2015).

- Change in degree completion by low-income students (2009–2011, 2011–2013, 2013–2015).

- Change in number of successfully completed credit hours (2009–2011, 2011–2013).

Over the years, these four indicators have accounted for 70 percent to 84 percent of the performance funding allocation. The Commission added two new metrics added in the 2013–2015 biennium: institutional defined productivity metric and high-impact degree completion.

Ohio

Ohio established two performance funding programs in the 1990s and then replaced them with a new program established in 2009.

In 1995, Ohio adopted the Performance Challenge. It rewarded colleges on the basis of nine different "service expectations" but only one focused on outcomes versus process variables, such as amount of vocational education programming.[3] This single outcome-oriented service expectation rewarded community colleges, technical colleges, and branch campuses based on the number of students who transferred or relocated after completing at least 15 quarter hours or 10 semester hours of coursework and on the number of transfer or relocated students who completed baccalaureate degrees (Dunlop-Loach, 2000, Appendix B; Ohio Board of Regents, 1996). The Performance Challenge was abandoned in 2000 (Moden & Williford, 2002, pp. 174, 176).

In 1997, Ohio established the Success Challenge via a funding proviso in the budget bill for the 1997–1999 biennium (HB 215, passed in 1997). Until it ended in fiscal year 2010, the Success Challenge provided a bonus to universities based on the number of students who earned a baccalaureate degree. Two thirds was based on numbers of in-state at-risk students graduating in any year; one third was based on numbers of any in-state students who earned a baccalaureate degree "in a timely manner" (generally in four years, but extended for majors that required more than four years). The metric was the number who graduated, and not the graduation rate (percentage graduating), within four years (Moden & Williford, 2002, pp. 173–178). The Success Challenge began small, with $2 million in fiscal year 1997–98, but funding rose rapidly in subsequent years, peaking at $53.7 million in fiscal year 2008–2009 (Petrick, 2012, p. 277). The money was unrestricted: it could be included in the institutions' overall budget and used in any way the institution so elected (O'Neal, 2007, pp. 49, 179–189). Success Challenge appropriations ceased after fiscal year 2009.

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[3] The other eight service expectations under the Performance Challenge involved additional state support for providing broad job training, offering effective developmental education, providing noncredit continuing education opportunities, fostering business partnerships, developing high school linkages, providing accessible learning environment and effective instructional delivery strategies, keeping tuition and fees low, and creating high community involvement (Burke & Serban, 1998, pp. 40–41; Dunlop-Loach, 2000, Appendix B; Moden & Williford, 2002, pp. 173–177).

In 2009, Ohio passed a budget bill embedding performance indicators in the state's formula for funding higher education operations (the State Share of Instruction). For the public universities, 80 percent of state operational funding would now be based on course and degree completions, with the remainder being set aside for doctoral and medical education. The degree completion share rose from 15 percent in fiscal year 2011–12 to 50 percent in fiscal year 2013–14 (Alstadt, Fingerhut, & Kazis, 2012; Ohio Board of Regents, 2011b, 2012b, 2013b). Meanwhile, the proportion based on course completions dropped from 65 percent in fiscal year 2012 to 30 percent in fiscal year 2014. (The remaining 20 percent represents the set-aside for doctoral and medical education.) For the 24 regional campuses of the state universities, funding initially was based solely on course completions. They will become subject to the same formula as the university main campuses in fiscal year 2015 (Ohio Board of Regents, 2011c, 2013b). The course and degree completions for the university main and regional campuses are weighted by the cost of programs and whether students are at risk, defined initially in terms of being eligible for state need-based aid (Ohio Board of Regents, 2011c, 2013b; Petrick, 2010, 2012).

For community colleges, the proportion of the state formula allocated on the basis of performance indicators started at 5 percent in fiscal year 2011, jumped to 50 percent in fiscal year 2014, and will rise to 100 percent in fiscal year 2015 (Ohio Association of Community Colleges, 2013; Ohio Board of Regents, 2011a, 2012a, 2013a). For fiscal year 2011 through 2013, the performance indicators took the form of "success points": (1) number of students completing developmental English and math and subsequently enrolling in a college-level course in those subjects; (2) number attaining certain credit thresholds in a given year; (3) number who earn at least an associate degree, from that institution, in a given year; and (4) number who transfer (that is, enroll for the first time at university having completed at least certain number of semester credit hours of college level course work at a community college). Degree completions are weighted by program costs. There has not been any weighting for whether students are at risk. In fiscal year 2014, course completions drive 25 percent of the state funding formula for community colleges, along with 25 percent for the success points, and the enrollment-based share has dropped to 50 percent (Ohio Board of Regents, 2013a). For FY2015, a Community

College Funding Consultation led by the Ohio Association of Community Colleges has recommended that success points continue to account for 25 percent, course completions rise to 50 percent, and degree completions (previously part of the success points) account for 25 percent. Enrollments would cease to be part of the formula (Ohio Association of Community Colleges, 2013).

The universities and community colleges have been cushioned against losses by a "stop-loss" provision ensuring they get at least a certain proportion of their state funding. For fiscal year 2010 the stop loss was 99 percent for the universities (the community colleges were still not subject to the new formula). For fiscal year 2011, the stop loss was 98 percent for universities and for community colleges. For fiscal year 2012, the figures were 82.5 percent for universities and 88 percent for community colleges (these figures reflected the end of federal stimulus funding). For fiscal year 2013, the stop loss figure was 96 percent for both kinds of institutions (Ohio Board of Regents, 2009, p. 6, 2011a, p. 6; 2011b, p. 11). The stop-loss was ended for universities in fiscal year 2014 and apparently will be ended for community colleges in fiscal year 2015 (Ohio Board of Regents, 2013a, 2013b; Ohio Association of Community Colleges, 2013). However, the state formula for universities has retained something called a "bridge" allocation, which is very similar to a stop loss, for fiscal year 2014.

Tennessee

Tennessee has established two performance funding programs: a PF 1.0 bonus program that was adopted in 1979 and still operates today, and a PF 2.0 outcomes-based formula funding program that was adopted in 2010 (Dougherty & Reddy, 2013). The older program is intended to serve as a "quality assurance" bulwark for the new program (Authors' TN interviews).

The Tennessee Higher Education Commission (THEC) adopted performance funding for the state's public two- and four-year higher education institutions in 1979 (Dougherty et al., 2013; Dougherty & Natow, in press). Funds were first allocated to institutions using performance funding in fiscal year 1980–81. Under that system, higher education institutions could earn a bonus of 2 percent over and above their annual state appropriations for achieving certain goals based on five performance indicators: program accreditation (proportion of eligible programs in the institution's inventory that are

accredited), student major field performance (student performance as assessed by in major fields examinations), student general education performance, evaluation of instructional programs (based on surveys of current students, recent alumni, or employers), and evaluation of academic programs (by peer review teams of scholars from institutions outside the state and/or practicing professionals in a field) (Banta, 1986, pp. 123–128; Bogue & Johnson, 2010). Tennessee added eight performance funding indicators and dropped four between 1979–1980 and 2009–2010. In addition, the percentage of additional funding that institutions could earn based on performance rose from 2 percent to 5.45 percent of the base state appropriation (Bogue & Johnson, 2010; Dougherty & Natow, in press).

In 2010, the Tennessee legislature passed the Complete College Tennessee Act, part of which provided for a dramatic redesign of the basic higher education funding formula in which performance indicators were now embedded in that formula (Dougherty et al., 2014a; Dougherty & Natow, in press). During the first year of the new system's operation in fiscal year 2011–12, university funding was based on the following indicators: numbers of students reaching 24, 48, and 72 hours of credit, research and service expenditures,; number of degrees awarded (bachelor's and associate, master's and education specialist, and doctoral and law degrees), number of degrees per full-time equivalent (FTE) student, number of transfers out with at least 12 credit hours; and six-year graduation rate (Tennessee Higher Education Commission [THEC], 2011, p. 1). Community colleges were funded based on somewhat different criteria: number of students reaching 12, 24, and 36 hours of credit, workforce training contact hours, number of dual enrollment students, number of associate degrees and certificates granted, number of awards per full-time-equivalent enrollments, job placements, number of transfers out with 12 credit hours, and remedial and developmental success. In addition, an institution is eligible for a 40 percent premium for credit and degree completion for low-income and adult students. To protect institutions, the new program has been gradually phased in over a three-year period, with the phase-in stopping at the end of FY 2014 (Dougherty & Natow, 2010; Dougherty & Natow, in press; THEC, 2011, 2012a, 2012b).

The Tennessee formula and allocation process is quite complex. Each indicator is weighted, but each institution has different weights assigned to each indicator by THEC based on a variety of factors including, but not limited to, the institution's preferences and Carnegie classification. Three-year rolling averages are first scaled, then multiplied by institution-specific weights, and finally totaled for institutional weighted outcomes totals. These totals include extra weighting for adult learners and low-income students on indicators for credit accumulation and degree production (THEC, 2011, 2012a, 2012b). The institution's total weighted outcomes value is then multiplied by the average faculty salary, as determined by Carnegie classification and Southern Regional Education Board. Fixed costs and equipment costs are added to create a formula subtotal. At this point, the institution's performance funding allocation is calculated by multiplying the institution's percentage on the program indicators by 5.45 percent of the institution's subtotal. This is added to the subtotal to give the institution's total. The formula then assumes a 55/45 subsidy/fee policy, so the total is then multiplied by 55 percent, out-of-state tuition is deducted, and there is finally a budget recommendation by the Tennessee Higher Education Commission. For the 2014–2015 appropriation, the legislature funded 62.8 percent of THEC's recommendation (THEC, 2014). It is not expected that the program will produce big year to year variations in funding for two reasons: the metrics are not ones that should change much from year to year; moreover, they are calculated in terms of three-year moving averages (Authors' TN interviews; THEC, 2011, 2012a, 2012b).