



TEACHERS COLLEGE, COLUMBIA UNIVERSITY

**Institutional Changes to Organizational
Policies, Practices, and Programs
Following the Adoption of
State-Level Performance Funding Policies**

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Abstract

In this paper, we describe findings from a large, qualitative case study of the implementation of performance funding for higher education in Indiana, Ohio, and Tennessee. Specifically, we address ways that universities and community colleges of varying levels of institutional capacity in those states have altered their academic and student services policies, practices, and programs to improve student outcomes and to achieve the goals of their states' higher education performance funding programs. We also examine how the adoption of such campus-level changes differed by state, performance funding program, institutional type, and institutional capacity level; and we describe how perceptions of these changes differed by the professional position of the institutional representative describing the changes. Recognizing that there were multiple external forces that prompted institutions to make changes designed to improve student outcomes, we also discuss the extent to which performance funding was perceived as having influenced campus-level changes.

Most of the academic changes identified concerned developmental education programs, course articulation, and ease of transfer. Most of the identified student services changes related to advising, tutoring and supplemental instruction, orientation and first-year programs, tuition and financial aid policies, registration and graduation procedures, and departmental organization. Although evidence indicates that performance funding did have an impact on institutional behavior, so did other external influences seeking to improve higher education institutional outcomes that were implemented either before or around the same time as performance funding. These included initiatives by regional accrediting associations and national policy initiatives such as Achieving the Dream and Complete College America. It is difficult, if not impossible, to disaggregate the influence of performance funding from that of these other initiatives.

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1. Introduction

Over the past several decades, numerous states have moved to change the way they fund public higher education institutions. Although funding colleges and universities based on the number of students they enroll has traditionally been—and in many states still is—the primary consideration in determining state-level higher education appropriations, over half of the states now utilize outcomes-based, or *performance-based*, funding mechanisms (Dougherty & Natow, in press; Dougherty & Reddy, 2013). In other words, states are increasingly funding their public higher education institutions based at least partially on the outcomes they produce—including graduation rates, job placement, student and alumni satisfaction, and many other factors—rather than on the number of students they enroll (Burke, 2002; Dougherty & Natow, in press; Dougherty, Natow, Bork, Jones, & Vega, 2013). In recent years, such performance funding programs have begun to focus largely on factors related to college persistence and completion, have incorporated performance indicators into the base state funding, and have connected larger proportions of state appropriations to institutional outcomes (Dougherty & Natow, in press; Dougherty & Reddy, 2013).

Previous research has examined the origins and elimination of certain performance funding programs (Burke, 2002; Dougherty & Natow, in press; Dougherty, Natow, & Vega, 2012; Dougherty et al., 2013). But there is a need for additional research into how these programs are implemented on individual campuses (Dougherty & Reddy, 2013). One important aspect of the implementation of performance funding is the steps that institutions take to revise their campus policies, practices, and programs in order to improve their performance on the outcomes by which they are now being funded. How are institutions altering their academic policies, practices, and programs following the adoption of performance funding programs in ways that relate to performance funding goals? How are they revising their student services policies, practices, and programs in the same regard? To what extent do institutional actors believe that these changes are the result of performance funding as opposed to other factors, such as accreditation demands, reform initiatives supported by foundations and other nongovernmental organizations, or simply the desire to increase institutional standing and reputation?

In this paper, we examine these questions in light of data gathered across three states and 18 institutions. We first describe the higher education performance funding programs of three key states—Indiana, Ohio, and Tennessee—that we have selected as our case study states for a broad analysis of higher education performance funding implementation. Next, we describe the conceptual framework that governs our analysis of the institutional changes that have occurred following performance program adoption. This conceptual framework is based on the concept of institutional isomorphism found in sociological institutional theory (e.g., DiMaggio & Powell, 1991). We then describe the research methods employed by this study. Next, we present our findings about the way that campuses in Indiana, Ohio, and Tennessee have altered their academic and student services policies, practices, and programs following the adoption of performance funding in each state, and about the extent to which respondents believe these changes have been influenced by the adoption of performance funding.¹ We conclude this paper by summarizing our findings in light of our conceptual framework.

2. Higher Education Performance Funding in Three Key States

The three states on which this paper focuses—Indiana, Ohio, and Tennessee—have had similar yet distinct experiences with regard to higher education performance funding.

2.1 Similarities Among the Three States

One similarity is that all of the states' most recent performance funding programs embed performance indicators within their base state funding for higher education, as opposed to providing a bonus that institutions would receive in addition to their base funding (Dougherty, Jones, Lahr, Natow, Pheatt, & Reddy, 2014). The states are also similar in that their most recent iterations of performance funding were not their first experience with such programs. In all three states, performance funding programs that

¹ In addition to academic and student services changes, some institutions were also making changes to their admission criteria to enroll better prepared students. This phenomenon is discussed in a separate report that examines the unintended consequences of performance funding (Lahr, Pheatt, Dougherty, Jones, Natow, & Reddy, 2014).

rewarded institutions with small financial bonuses for performing well (known as PF 1.0 programs) had been previously adopted, although later these programs were either replaced, enhanced, or complemented by performance funding that was embedded within the state's base higher education funding (known as PF 2.0 programs) (Dougherty & Natow, in press; HCM Strategists, 2011). In all three states, performance funding applies to all sectors of public higher education: two-year as well as four-year institutions (see Table 1). Finally, the current performance funding policies of all three states have at least some focus on degree or program progression and completion (Dougherty & Natow, in press; Indiana Commission for Higher Education, 2013a; Jones, 2013).

2.2 Differences Among the Three States

The performance funding programs in the states of Indiana, Ohio, and Tennessee differ in several important ways. One way concerns the amount of funding tied to performance and the manner in which performance indicators are embedded within the state's base funding for higher education. Specifically, Tennessee and Ohio employ a funding formula to determine base state appropriations for public higher education institutions, with 80 percent or more of the funding performance based. In Indiana, conversely, only 6 percent of state operational funding is performance based,² and the state provides such funding to institutions in the form of both a bonus and withheld funds that must be earned back based on performance (Dougherty & Natow, in press).

Moreover, whereas Indiana and Ohio currently each have one performance funding program in existence, Tennessee has two that operate together. Its latest performance funding program was developed in 2010, but a smaller program has existed—and continues to exist—since 1979 (Dougherty & Natow, in press). Indiana first began using performance funding in 2007, but in 2009 the state developed its current form of performance funding (HCM Strategists, 2011). Ohio has had some form of higher education performance funding since 1995, but in 2009 its current formula-embedded performance funding program replaced the previous, bonus-based iteration of performance funding. More recently, in 2013, Ohio restructured its performance funding program to tie a larger amount of funding for community colleges to performance and to

² It is scheduled to increase to 7 percent in 2015 (Jones, 2013).

accelerate the shift from degree completion to course completion as the main performance metric for universities (Dougherty & Natow, in press).

Finally, the particular indicators and metrics used by each of these states' performance funding programs are somewhat different from one another. Ohio's performance funding program contains indicators for degree and course completion at the university level, but the community college formula includes not just degree completion but also developmental education completion, credit progression, and transfer (Dougherty & Natow, in press; Dougherty & Reddy, 2013; Jones, 2013). Although Ohio's community college funding formula currently includes an enrollment-based metric, the formula is scheduled to be entirely performance based by fiscal year 2015 (Dougherty & Natow, in press; Jones, 2013; Ohio Association of Community Colleges, 2013).

Like Ohio's program, Indiana's contains indicators related to degree completion (for all students generally and for at-risk students and in certain fields in particular) and student progression by credits earned (15, 30, 45 for community colleges, and 30, 60 for universities). Moreover, Indiana's program contains success in developmental education, timely graduation, and a campus-specific indicator of "productivity" (Jones, 2013, p. 16; see also HCM Strategists, 2011; Indiana Commission for Higher Education, 2013a).

Performance funding in Tennessee contains two components: the overall funding formula (the vast majority of which is now based on institutional performance), and a much smaller bonus program that has existed since 1979 (Dougherty & Natow, in press). In addition to indicators related to student progression by credits earned and graduation, Tennessee's combined programs also contain indicators related to transfer, research (at the university level), service (at the university level), dual enrollment (at the community college level), job placement (at the community college level), successful developmental education (at the community college level), accreditation, program review, institutional improvement, education for the workforce (at the community college level), student test performance, constituent satisfaction, and certain institution-specific objectives (Dougherty & Natow, in press; Jones, 2013; Tennessee Higher Education Commission, 2010).

As these descriptions of each state's performance funding metrics demonstrate, these three states have performance funding programs with varying levels of complexity and differing performance indicators based on different state objectives.

3. Conceptual Framework:

The Influence of Institutional Isomorphism in Organizations' Creation of New Policies, Practices, and Programs

When faced with new uncertainties based on changes in the manner in which resources are allocated and received, organizations make decisions about whether and to what extent their structures, behaviors, and operations should be changed in order to attract needed resources. A phenomenon observed among organizations that are in the same organizational field and that face similar challenges is their frequent adoption of characteristics and practices very similar to one another because such characteristics and practices are considered suitable and rational for those particular types of organizations to adopt (DiMaggio & Powell, 1991; Meyer & Rowan, 1991). This process is known as *isomorphism* because the result is that similar organizations develop similar forms, including forms of policies and practices (DiMaggio & Powell, 1991). Eventually, some policies, practices, and programs become institutionalized, and they are accepted as effective and legitimizing choices for organizations independent of evidence of their effectiveness (DiMaggio & Powell, 1991). Such institutionalized practices may or may not actually be effective, but they are commonly perceived as effective, acceptable, and sometimes even expected choices for organizations in the field to make.

There are three generally recognized means through which isomorphism occurs. The first, *coercive isomorphism*, occurs when institutions are influenced to adopt certain features or practices because a more powerful institution—such as a government, a lending institution, or the broader culture—requires or encourages such adoption (DiMaggio & Powell, 1991). The second, *mimetic isomorphism*, occurs when organizations duplicate the practices of other, similar institutions that are believed to be not only thriving but also successful (DiMaggio & Powell, 1991). Finally, *normative isomorphism* occurs when institutions adopt common practices because they correspond

with professional or field-specific norms propagated by professional organizations and experts in the field (DiMaggio & Powell, 1991).

It would not be surprising for all three types of isomorphism to occur when higher education institutions, faced with new funding rules designed to place a greater priority on outcomes, alter their institutional policies, practices, and programs to promote the desired outcomes. Any changes made in response to a performance funding program may be considered coercive isomorphism, because performance funding is an incentive-based funding structure incorporated into a state's budget, and coercive isomorphism is seen in changes made in response to "legal and technical requirements of the state" (DiMaggio & Powell, 1991, p. 67). Thus, the assertion of campus representatives that a particular change was highly influenced by the adoption of performance funding is an indication that coercive isomorphism is likely to have occurred. Moreover, campus changes made following performance funding adoption that closely resemble specific aspects of performance funding—for example, the development of a job placement services office when the state's performance funding program includes a job placement metric—may be particularly indicative of coercive isomorphism because they appear to be modeled after those "legal and technical requirements of the state" (DiMaggio & Powell, 1991, p. 67). Of course, it is possible for campus changes such as the creation or enhancement of a career services office to have developed independently of performance funding. But such changes, particularly when observed in multiple institutions in the same state and when campus representatives identify such changes as being at least in part related to their institution's response to performance funding, provide evidence that coercive isomorphism may have been a force involved in the adoption of that change.

The rationale for mimetic isomorphism is that in order to thrive, secure legitimacy, and obtain needed resources, organizations will imitate the practices of other, comparable organizations that are deemed "to be more legitimate or successful" (DiMaggio & Powell, 1991, p. 70). Thus, it would be expected that lower capacity colleges and universities in a state will look toward higher capacity institutions to obtain ideas for program and practice changes that would appear to enhance institutional performance. Based on observations of institutional changes alone, it may not be possible to determine that mimetic isomorphism (versus, for example, normative isomorphism or

some other force) influenced the adoption of similar programs in high-capacity and low-capacity institutions. However, it may be possible to rule out the influence of mimetic isomorphism where lower capacity institutions have adopted different program, policy, or practice changes than higher capacity institutions in the same state. In such cases, factors other than mimetic isomorphism are likely to have been influential.

One of those other factors may prove to be normative isomorphism, which occurs when organizations adopt practices that are deemed effective by professional and training organizations as well as experts in the field (DiMaggio & Powell, 1991). As DiMaggio and Powell (1991) write, “Universities and professional training institutions are important centers for the development of organizational norms among professional managers and their staff” (p. 71). Thus, publications by university researchers and professional associations are likely to contain recommendations which, when adopted by large numbers of organizations within the field, can become institutionalized. With regard to institutional changes made in response to performance funding, college and university administrators may look to the writings of respected researchers on college persistence (see, for example, Tinto, 2012). Tinto (2012) cites the following institutional practices and programs as helpful in promoting student persistence and completion: professional development for academic staff, first-year programs for entering students, enhanced academic advising (including early warning systems, degree audits, and helping students to thoughtfully select majors), tutoring and academic support, learning communities (including but not limited to living-learning communities), better alignment of course content within an academic program and from developmental to college-level courses, centralizing student services, special assistance for transfer students, mentoring, frequently offering required courses, eliminating late registration, and fostering partnerships between academic and nonacademic staff. Tinto (2012) also suggests that institutions alter developmental education to “contextualize and/or integrate basic-skills instruction into college-level courses and accelerate, through mainstreaming, the movement of developmental education students through the curriculum” (p. 122).³ To the

³ Tinto (2012) recommends a great deal of institutional self-assessment and analysis of student and institutional data. Practices such as these, while not falling under the precise categories of “academic” or “student services” changes, are nonetheless important. We consider them in a separate, forthcoming report on organizational learning (Jones, Dougherty, Lahr, Natow, Pheatt, & Reddy, 2014).

extent that institutional changes made following performance funding adoption in the institution's state reflect practices identified by researchers and professional associations as practices that may advance the outcomes rewarded by performance funding metrics, this may be evidence of normative isomorphism at work.

Moreover, norms in a particular field may be reflected in "best practices" publications by professional associations or other organizations in the field. In the higher education policy arena, groups like Complete College America suggest a number of policy and institutional changes that may promote college completion (see, for example, Complete College America, 2013). Some of the policy, practice, and program changes recommended by Complete College America (2013) include: employing corequisites of simultaneous college-level and developmental courses, making other curricular changes to developmental education, charging the same tuition for students who take 15 credits per semester as for students who take 12 credits, structuring class schedules in "blocks" so there are fewer scheduling conflicts, and employing degree maps and early warning systems as part of student advising. It is interesting to note that many of these recommended changes reflect the institutional changes that the research literature suggests may be effective at promoting college persistence and completion (see, for example, Tinto, 2012).

It is important to note that different types of isomorphism may result in the widespread adoption of similar practices. That is, coercive, mimetic, and normative forces may work—separately or in conjunction with one another—to promote the adoption of one popular practice. For example, state governments and higher education boards may mandate the adoption of particular student services changes precisely because those changes are normatively regarded as important and effective. Moreover, to the extent that high-prestige organizations adopt such practices, then lower prestige organizations imitating their higher prestige peers may adopt them through mimetic isomorphism. Thus, different isomorphic forces influence each other, and it may be impossible to completely disentangle which isomorphic forces are resulting in the widespread adoption of particular organizational practices. What is most important, however, is to identify the organizational practices that are (or are becoming)

institutionalized, and to observe whether and how any type of isomorphism may have played a role in these practices' widespread adoption.

Of course, colleges and universities may also adopt policies, practices, and programs that are unique to the institution and not isomorphic in nature. Understanding which institutional changes are isomorphic and which are not is key to determining the policies, practices, and programs that are likely to become institutionalized in the future. Practitioners and researchers can then monitor these isomorphic changes to ensure they are indeed effective and not being widely adopted simply because they confer “legitimacy” and nothing more (DiMaggio & Powell, 1991; Meyer & Rowan, 1991). This way, policymakers and stakeholders can draw attention to the fact that certain practices may not be as effective as they are assumed to be, and make changes to those practices to improve their actual effectiveness. It is also important to identify institutional changes that are not widely adopted to determine the reasons why they are not becoming institutionalized and whether they are worthy of more widespread promotion and adoption.

This study explores the case of institutional changes made following performance funding program adoption for the purpose of understanding both how institutions respond to changes in funding policy and what institutional changes are (and are not) becoming institutionalized.

4. Research Methods

This qualitative case study examines how performance funding policies for higher education are being implemented at the campus level in the states of Indiana, Ohio, and Tennessee. In this section, we describe how our cases were selected, our data sources, and the way that data were analyzed in response to the following research questions:

- To what extent do institutional actors attribute changes made to their institutions' academic and student services policies, practices, and programs to performance funding, as opposed to other influences (such as the desire for institutional prestige, accreditation requirements, or separate state initiatives with similar goals to performance funding)?

- What changes to academic policies, practices, and programs have been made by higher education institutions following the adoption of a performance funding program in the institution's state?
- What changes to student services policies, practices, and programs have been made by higher education institutions following the adoption of a performance funding program in the institution's state?
- How do changes in academic and student services policies, practices, and programs made following the adoption of performance funding differ by state, by performance funding program, and by institutional differences (type and organizational capacity)?⁴
- How do perceptions about what academic and student services changes were made following the adoption of performance funding differ by respondents' professional positions?

4.1 Case Selection

Case study states. As explained above, the three states share a number of similarities and differences with respect to their performance funding programs. For example, Indiana bases only 6 percent of state funding on performance, while Ohio bases about 80 percent for universities and 50 percent for community colleges on performance (rising to 100 percent in FY 2015), and Tennessee bases at least 85 percent on performance (Authors' interviews; Dougherty & Reddy, 2013; Ohio Association of Community Colleges, 2013). The states also have different histories with performance funding: Tennessee was the first state to adopt performance funding—a 1.0 program—in 1979. Ohio adopted a performance funding 1.0 program in 1995, and then adopted a performance funding 2.0 program in 2009. Indiana's experience with performance funding is much more recent: in 2007 the state adopted a 1.0 program and, in 2009, it adopted its current 2.0 program (Dougherty & Natow, in press; Dougherty & Reddy, 2013).

⁴ "Organizational capacity" is measured in terms of institutional resources, the ability of the institution to analyze data, and composition of students. A further discussion of organizational capacity, and how colleges were sampled based in part on organizational capacity, is provided below.

The three states also present interesting comparative case studies because they are different in terms of their state socioeconomic and political characteristics. Indiana and Tennessee both are above average in the conservatism of their citizens, while Ohio is closer to the national average (Erikson et al., 2005).⁵ The three states also differ in the characteristics of their political institutions, with Ohio’s governor having more institutional power, and with its legislature having a higher degree of legislative professionalism, than Indiana’s or Tennessee’s (Ferguson, 2013; Hamm & Moncrief, 2013). Moreover, Ohio and Tennessee tend to have greater political party competition than Indiana (Holbrook & La Raja, 2013). Further, as shown in Table 1, the three states have very different social characteristics in terms of population, education, and wealth. Finally, also as presented in Table 1, the states have some similarities and some differences with regard to their governance systems for higher education at the time performance funding 2.0 programs were adopted in the state.

Table 1
Programmatic, Political, Social, and Economic Characteristics
of the Case Study States

State Characteristic	Indiana	Ohio	Tennessee
1. Year performance funding was established*			
1.0 program	2007	1995	1979
2.0 program	2009	2009	2010
2. Sectors of public higher education covered by the state’s performance funding 2.0 program			
	Universities and community colleges	Universities and community colleges	Universities and community colleges
3. Proportion of state appropriations based on performance funding 2.0 indicators			
	6% of higher education funding (fiscal year 2013-2014)	80% of funding for universities and 50% of funding for community colleges (fiscal year 2013-2014)	Approximately 85 to 90% of state higher education appropriations; the remainder is accounted for by utilities, major equipment, and similar expenses
4. State’s higher education governance structure at the time performance funding 2.0 was adopted			
Coordinating board for all public higher education in the state	X	X	X
Governing boards for <i>each</i> public university or university system in state	X	X	X (for the five University of Tennessee campuses)

⁵ Data are drawn from CBS/*New York Times* polls between the year 1996 and the year 2003, identifying the proportion of adults who identify as conservative (Erikson, Wright, & McIver, 2005).

State Characteristic	Indiana	Ohio	Tennessee
Governing board for <i>all</i> community colleges	X		X (all public community colleges & universities other than the University of Tennessee)
Governing board for <i>each</i> community college		X	
5. State political culture: Proportion in state identifying as conservative (1996-2003)	37.9%	34.4%	39.3%
6. Governor's institutional powers on a scale of 1 to 5 (2010)	3.25	3.75	2.75
7. Professionalism of the legislature (2009)	22 nd	5 th	37 th
8. Index of party competition (2007-2011)	0.871	0.926	0.913
9. State's population as of 2010	6,484,000	11,537,000	6,346,000
10. State's per capita personal income as of 2010	\$34,943	\$36,395	\$35,307
11. Residents over age 24 holding at least a bachelor's degree (2009)	22.5%	24.1%	23.0%

*We chose to focus on the date that performance funding was adopted rather than on a later date of implementation or full phase-in (if applicable), because as of the adoption date, institutions were likely to have been aware that performance funding had been adopted and were probably considering institutional responses by at least that point.

Sources:

- 1, 2. Dougherty & Reddy (2013).
3. Authors' interviews.
4. McGuinness (2003) and authors' interviews.
5. Erikson, Wright, and McIver. (2005).
6. Ferguson (2013). Ferguson applies a five-point scale to the following six features: the number of executive branch officials separately elected, the tenure potential of the governor, the governor's powers of appointment, the governor's budgetary power, the governor's veto power, and whether the governor's party controls the legislature. The average for all 50 states across all of these features is 3.3.
7. Hamm & Moncrief (2013). Hamm & Moncrief use rankings on Squire's index (based on legislative salary, the amount of permanent staff, and the length of the legislative session).
8. Holbrook & La Raja (2013). Holbrook & La Raja report the Ranney interparty competition index, with larger numbers meaning more competition, on a 0.5 to 1.0 scale.
- 9, 10, 11. U.S. Bureau of the Census (2012).

Case study institutions. We selected three universities and three community colleges in each state for our research. In each sector, the three institutions differ in their expected capacity to respond to performance funding in an effective manner. We selected one community college each in the highest, middle, and lowest third in their respective states in terms of anticipated capacity levels, based on the college's revenues per full-time equivalent student, ratings by two specialists in each state on the college's analytic capacity, the proportion of students receiving Pell Grants, and the proportion of students from racial and ethnic minority groups. We rated the institutions on each of these three

dimensions as being in the top, middle, and bottom third, summed the ratings, and picked community colleges in the top, middle, and bottom third of the combined ratings. With regard to universities, we made similar designations based on capacity level. We then selected two in the top third (with one being research-intensive) and one in the bottom third of capacity levels.

4.2 Data Gathering and Analysis

We conducted numerous interviews in all three states with a broad array of actors. We conducted semi-structured interviews using a standard protocol, although we adapted it to each interviewee and to material that emerged during the course of the study or during individual interviews. We also examined available documentary data, including public agency reports, news articles, academic books, journal articles, and doctoral dissertations. At each institution, we attempted to interview the following categories of people: senior administrators (such as presidents and vice presidents of various areas), mid-level nonacademic level administrators (such as the director of institutional research), deans and other mid-level academic administrators, chairs of different academic departments representing a range of disciplines and different levels of exposure to external accountability demands, and the leader of the faculty senate. With regard to academic positions, we sought to interview deans in the arts and sciences and in workforce development or professional training. We also sought to interview department chairs in the humanities, social sciences, mathematics/natural sciences, and programs within the workforce/occupational education divisions. Table 2 shows the number of individuals interviewed at each college in each state.

Table 2
Number of Interviewees in Each State

College	Indiana	Ohio	Tennessee	Grand Total
Community College 1	14	12	12	
Community College 2	10	13	12	
Community College 3	10	13	14	
University 1	10	11	12	
University 2	13	15	12	
University 3	14	15	10	
Total	71	79	72	222

When interviewees gave consent to record their interviews (which occurred in the vast majority of cases), the interviews were recorded, transcribed, entered into Atlas.ti data analysis software, and coded. We also coded (via Atlas.ti) documentary materials in a format that permitted it. We developed the coding scheme with an initial list of codes based on this study’s conceptual framework. We added and revised codes as we proceeded with data collection and analysis, and when new issues arose or new developments occurred. We analyzed data by running queries in Atlas.ti based on our main coding categories. Cross-case analytic tables were created to categorize interviewees’ responses with respect to the particular research questions asked here. Specifically, tables were constructed to determine differences in the numbers of institutions adopting various institutional changes across states, performance funding programs, interviewees’ positions within their institution, institutional types, and institutional capacities. Some interviewees provided no data in response to particular questions. Also, some interviewees provided data that were overly vague or uncorroborated (that is, not corroborated either by another interviewee or by documentary data regarding the same institution).⁶ In such cases, responses were not counted in the cross-case analysis.

⁶ Because the research questions analyzed here focus on the actions that institutions are actually taking to enhance outcomes following the adoption of performance funding programs, the focus of our data analysis in response to these questions was on the institutions, as a unit of analysis, rather than on individual respondents. Therefore, respondents’ claims that were uncorroborated are not included in the tables. Overly

5. Perceptions About the Extent to Which Performance Funding Drives Institutional Changes

Before we identify the campus-level changes that have been made that relate to performance funding objectives and that have followed the adoption of performance funding for higher education, we describe the extent to which our respondents believed that campus-level changes were being made in response to performance funding, as opposed to other external forces. Higher education institutions experience a variety of demands for accountability from both internal and external constituents, and these compete with the impact of performance funding programs. Students and, often, their parents want high-quality education and timely degrees, as do policymakers and external organizations such as nonprofits concerned with college completion and educational quality. Accrediting organizations—whether regional associations such as the North Central Association of Colleges and Universities or professional associations such as the National League for Nursing—routinely monitor the activities and outcomes of higher education institutions and their programs. Higher education institutions themselves seek the honor and prestige that comes with high graduation rates and other positive student outcomes. And policymakers consistently look for new ways to make colleges and universities operate more effectively and efficiently—performance funding being one way of doing this. Other means include pushing particular changes in institutional policies, programs, and practices (such as changes in developmental education) that are seen as improving student outcomes. In short, there are a number of other forces that may influence higher education institutions to alter their policies, practices, and programs with an eye toward improving student outcomes.

5.1 Ratings of the Impact of Performance Funding on Institutional Changes

During our interviews, many of the institutional actors made statements reflecting their beliefs about the extent to which performance funding motivated the institutional changes they were observing. During data analysis, we categorized these responses as reflecting a belief that performance funding had either a high, medium, or low (meaning

vague answers are similarly not reflected in the tables because it was unclear under what category these responses would fall, and because it was difficult to corroborate overly vague responses.

little to no) impact on institutional changes. Table 3 reflects these perceptions across all interviewees at all of the states and institutions in our sample.⁷

Table 3
Number of Respondents Who Indicated that Performance Funding Has Had a High, Medium, or Low Influence on Institutional Changes to Academics and Social Services*

High	Medium	Low	Unsure
38	86	60	14

*A respondent who indicated that more than one performance funding program in the state had the same level of influence is counted once for that level of influence; a respondent who indicated that different programs had different levels of influence is counted once for each level of influence.

As Table 3 shows, almost one fifth of our respondents (38 out of 198) who commented on this question rated the influence of performance funding as high. For example, a senior administrator at an Ohio community college noted:

[W]e’re going to be in the midst [this year] of 50 percent of our [state] funding [being] based on performance, and we’re going to be heading into the next year where it’s going to be a hundred percent of our funding. So a little more than a year from now we are going to have to make some major, major changes in the way we operate. ... So there’s no doubt in my mind that we and all of our sister institutions will be looking at the way we operate and will be assessing whether or not our policies, practices, procedures, whatever, are contributing toward completion.

However, more statements were made about performance funding having either a medium- or low-level influence than a high-level one. This finding points to the fact that most of the time respondents felt that forces other than performance funding at least factored into institutional decision making about changes in academic and student-services policies, programs, and practices.

⁷ Due to the evolving and semi-structured nature of our interview protocol, to the fact that some interviewees had more knowledge about performance funding (or particular performance funding programs) than others, and to the fact that, on occasion, questions about the extent to which performance funding influenced institutional changes were not asked or answered, the total number of respondents whose statements are reflected in this section is fewer than the total number of institutional actors we interviewed. Nonetheless, the majority of our interviewees provided data with regard to this issue.

5.2 Reasons Given for Not Rating the Impact of Performance Funding “High”

Our respondents gave a variety of reasons for why the impact of performance funding on their institution’s actions was not high. They included the following: performance funding had little financial impact, the institution was already performing well or was already motivated to seek better performance, or there were other external initiatives that were also leading institutions to pursue improvements in student outcomes.

Performance funding did not involve much money. Perceptions of a small impact of performance funding on institutional changes sometimes were rooted in a perception that performance funding does not have much financial impact on institutional revenues. For example, a faculty member at an Indiana university said:

Money matters. . . . It’s not unimportant, but its impact is pretty marginal. Again, our primary driver and the reason why I want to do this is because I want to serve my students, not because the state is saying that it’s important to me.

The institution was already performing well. Sometimes respondents discounted the impact of performance funding because they perceived their institutions as already performing well on the outcomes being measured by performance funding. A mid-level administrator at an Ohio university said the following:

[W]e were already doing really well on the performance metrics. . . . We really saw it as being a very positive change for us that we would do well under the system as is. [Q: Without having to make any major changes?] Right.

The institution was already committed to improving. Other times respondents did not give performance funding great weight because, even if their performance needed improvement, they believed that their institution was already committed to improving its student outcomes, regardless of performance funding. As a senior administrator at a Indiana community college argued:

[R]egardless of the funding, we have determined that students require a higher level of customer service or maybe more structure. So internally, even without the funding change, I would hope that we would still be moving towards the same levels that we're working on right now. We have really done a lot of restructuring service-wise, curriculum-wise, and I don't believe that it's totally driven by the funding. I think that it's the right thing to do, and it strengthens the college's ability and capacity to ... offer a strong educational system to students. So I'm believing that we would have made these changes and gone in that direction anyway, but I think that this is a further incentive with the funding model change.

Similarly, when asked to what extent his institution would have made changes to improve student outcomes regardless of performance funding, a department chair at an Ohio university replied:

I think they would have taken place without pressure from the state ... we've been trying to boost our standing in the public domain, so I think there was a lot of pressure on to get more national recognition. Reasonably, I think it was an anticipation of just the competition among universities for students.

No doubt there is a degree of defensiveness to these responses. As professionals committed to the ideals of higher education, college administrators and faculty are loath to acknowledge that the lash of possible funding loss may have spurred them to action. However, we should not discount the role of professional ideals. For professionals, professional values are very important motivators. And as we will note below, it is possible to observe the impact of performance funding and yet also acknowledge that other springs to action also operate. Before we turn to that point, we should examine external factors other than performance funding that also influenced programmatic changes at public colleges and universities.

5.3 Other External Initiatives Driving Improvements in Student Outcomes

Our respondents pointed to several initiatives that were operating at the same time as the state performance funding programs and also were affecting their programmatic decisions. They included accreditation demands, foundation initiatives such as Achieving

the Dream and Complete College America, and state mandates for changes in institutional policies and programs.

Accreditation demands. Particularly in Ohio and Tennessee, respondents frequently noted that pressure from accrediting associations played an important role in the development of new academic and student services policies. For example, a senior administrator of an Ohio community college described the impacts of the college's involvement with the Academic Quality Improvement Program (AQIP) of the North Central Association of Colleges and Schools:

[W]hen we started the AQIP process—I think it was seven years ago now [in 2006]—the issues regarding student success came to the forefront. We started on these initiatives of mandatory testing of students and mandatory placement into developmental classes and now we're working on mandatory orientation. So all of those are student success initiatives that if we're being graded on our performance probably it would help us. [Q: But from your perception, these have been independent efforts that the college has been doing?] From my perception, yes.

Similarly, in Tennessee, a community college was influenced by its involvement with the Quality Enhancement Plan (QEP) of the Southern Association of Colleges and Schools. A faculty leader at the community college noted:

When we worked on our QEP ... probably eight years ago for our SACS accreditation five years ago, we were looking at various strengths and weaknesses in academics as well as other offices that could help our students and what we might focus on ... out of some of those conversations, we saw that our students really need counseling services.

Achieving the Dream (ATD). This initiative was started by Lumina Foundation and now exists in over 30 states. It is working with community colleges in Ohio and Indiana. It focuses on improving student outcomes and its central strategies include improving developmental education and enhancing student outcomes (Achieving the Dream, 2014a, 2014b). A good number of our Indiana community respondents indicated that ATD had influenced their college's actions (Authors' interviews IN CC1 #1, 4b, 5, 7,

11, 13; IN CC2 #1, 9, 10b; IN CC3 #2, 3). An academic dean at a community college in Indiana described this influence:

[W]e were also part of the Achieving the Dream project. So, as part of that initiative, we have made a lot of changes in how we react to retention. We've hired new advisors so that we have a larger advising staff. ... We've instituted more tutoring in order to help these students along the way to be successful. We have a lot of supplemental programs in place to identify people earlier in their educational process so that we can help them to be successful beginning at an earlier date. We've just purchased the Starfish software, which will allow us to make students more aware when they are having difficulty in the classes and help them become aware of how they can get help. So, in that way, we have sort of geared up to be responsive to performance-based funding.

Complete College America. This organization has been strongly promoting a number of changes in college policies, including revamping developmental education and advising practices (Complete College America, 2013). Its main impact has been on state policymakers, but there is some evidence that its recommendations have influenced institutional actions as well (Authors' interviews IN Univ1 #2b; IN Univ2 #1b; OH CC2 #11; TN Univ1 #8b; TN Univ2 #1b). For example, a community college faculty member in Ohio told us:

There is going to be a conversation about ... whether or not to combine developmental students with college-level ready students. ... [The college] works with Complete College America. We got their emails suggesting the changes and we were told that there would be a meeting this semester to discuss how we wanted to implement those changes.

State policy initiatives. Across all three of our states, state governments were also undertaking important initiatives involving changes in academic and student services policies that paralleled the goals of performance funding. In Tennessee, the 2010 Complete College Tennessee Act that gave rise to the new performance funding program also established initiatives to smooth transfer from community colleges to universities and made a number of changes with regard to community colleges. (Complete College

Tennessee Act, 2010). Other initiatives, such as the Developmental Studies Redesign Project, have sought to reform developmental education in Tennessee (Boatman, 2012). In Ohio, the state has made efforts to smooth student transfer and articulation pathways (Ohio Board of Regents, 2007). Also, the Board of Regents convened a “Complete College Ohio” task force that made numerous recommendations for campus-level changes designed to increase college completion, including providing more opportunities dual enrollment, reforming developmental education, enhancing first-year orientation, improving course transfer and articulation, and adopting more rigorous student advising practices (Ohio Board of Regents, 2012). And in Indiana, the state has mandated a 120-credit limit on baccalaureate degrees, taken steps to improve the transferability of general education courses from community colleges to universities, and required colleges to provide new students with a degree map that shows them what steps to take in order to complete a baccalaureate program in four years (Indiana Commission for Higher Education, 2013b; Indiana State Senate, 2013).

These initiatives clearly affected institutional efforts in addition to the pressure from performance funding. A senior administrator at a Tennessee university mentioned how these state policy initiatives had influenced his institution’s actions:

You know the one thing we haven’t talked about, which is not formula-related, its Complete College [Tennessee Act] related ... is all of the work on the core, on the transfer pathways, on some of the course numbering stuff. I think the policy aspects of Complete College are going to have a greater impact on moving the needle than just simply the [performance funding] formula. The state put in place transfer pathways. The state put in place a block core of courses that all institutions have to take across ... both the TBR [Tennessee Board of Regents] and UT [University of Tennessee] system. If there were 20 policies, the formula is just one out of 20. There’s more to this than just the formula.

5.4 The Joint Influence of Several Different Factors

In sum, most respondents perceived that performance funding had at least some impact on institutional changes, but more often than not, they suggested that the impact was not high. Moreover, many respondents believed that, although performance funding

was certainly driving institutional changes, there were other factors (such as the quest for institutional prestige, accreditation requirements, participation in initiatives such as Achieving the Dream, and state mandates) driving these changes as well. As a result, it often was difficult for respondents to determine what was the unique impact of performance funding. For example, when asked whether Achieving the Dream or performance funding had the greater impact on the college, a senior administrator at an Indiana community college responded:

They are so closely aligned it's so hard. That's like splitting hairs. Yeah we're having a problem disentangling the two, because it comes up a lot. They are so closely aligned. I mean the Achieving the Dream is so focused on what drives student success among certain student populations. And so if you can address those, you're going to address retention and completion, transfer, enrollment. ... And if you're doing all of those, the end result is improved performance funding. So is it the end outcome of getting more money? Well certainly there's interest in that, we all need that. But it's so entangled, as you said, with our mission of doing the right thing to serve students.

Similarly, a senior administrator at a Tennessee university observed:

Well I think part of the challenge with your question is that the things that I'm walking through [with you] are not just simply because of the new formula or the old formula. They are the result of policy directives from the board. They are the results of questions from regional and professional accrediting entities. They are the result of public pressures. So it's not just simply the formula, it's a national mood and a national conversation around the importance of completion. You know a lot of this is triggered by the realization that students are covering the reported costs of going to college and they are going in debt to do so, so morally there's an imperative to ensure that students who are making personal investments in post-secondary education are realizing a return on that investment. So I think these two policy mechanisms—the funding formula and the old performance funding—are just part of a broader national conversation and dialog around student success and academic performance.

Not surprisingly, then, several of our respondents viewed the situation as one of joint causation. Sometimes, this was seen as a matter of alignment in which actions taken in response to one program (whether performance funding or another initiative) also served the aims of another program. A senior administrator at an Indiana community college observed:

You're probably aware that we're an Achieving the Dream member, and a number of statewide initiatives [are] happening at the same time. I really think it's a nice alignment of the stars, if you will. We've got the state pushing for it; we've got Lumina pushing for it through Achieving the Dream. Our strategic plan that we have in place focuses very much on student success, so I think the timing is right. ...What, if any, particular changes in college policies or practices was performance funding expected to stimulate? Well again, a lot of our changes would be captured in what we're doing with the Achieve the Dream initiative. And if you look at how our strategic plan is aligned with the Achieving the Dream initiative, I think that there again, the alignment is really kind of a key point for us.

A senior administrator at a Tennessee community college noted a similar coincidence of effects when we asked if there were any specific changes to academic policies or programs that were taken in response to the new formula:

There are. And let me remind you, they are probably tied into financial aid rule changes also. But one is we now we stop applications for admission several days prior to the last day of registration. Since we're not looking at the fourteenth class day now, we're looking at retention and success; we're limiting the late enrollments. So that's one academic policy that's changed. Another one is we pay much more attendance verification. ... I would say they developed synonymously or as a unified effort. So in other words, the financial aid pressure so that we don't have to pay back financial aid monies was what generated the attendance verification. But that same attendance verification yields a retention effect, which helps with formula funding. So they actually go hand-in-hand.

Other times, performance funding was regarded as accelerating the impact of preexisting motivations and initiatives. For example, a senior administrator at an Indiana university noted:

Unfortunately, even though in theory we want all of us to believe that students graduating from college is what we should all be striving for, it's easy for us to get lazy and, if the state thinks we are doing okay, to not worry about it. I think even though retention has been on everyone's mind for many years, it's elevated because of the performance funding. And in that respect it's probably a good thing and necessary things, because sometimes you got to get the state to light a fire under you to do the right thing. I think the conversations were happening, but I do think the performance funding added a sense of urgency.

Similarly, a senior administrator at an Ohio university said that institutional changes “would have happened anyway, and I think that's true but I think that having the state metrics come in at this time probably increased the speed as far as these changes happening.” Finally, a mid-level administrator at a Tennessee community college noted:

We had been talking about a new student orientation for a long time. ... It may have not gone as quickly, if we had not been pushed a little bit by the formula. ... It has really pushed us to make us act on what we felt like. ... A lot of times it was, “No, we don't need to change. It's working fine.” People are open to making changes to the programs now.

6. Academic and Student Services Changes

In this section, we discuss the academic and student services changes made by institutions after the adoption of performance funding that relate to performance funding goals (for example, changes that promote persistence, degree completion, job placement, and other performance funding objectives). Respondents answered our questions about changes that the institutions made in response to performance funding and to other questions that, while not directly related to performance funding, arose in the context of interviews about performance funding implementation. As shown above, it was difficult if not impossible for respondents (and for us) to disentangle the influence on institutions'

decisions of performance funding, on the one hand, and other external forces pushing for improved institutional outcomes, on the other. In some cases, these changes were specifically mandated by the government as part of a policy initiative that is separate from performance funding (for example, the Tennessee Transfer Pathways initiative), but yet the changes were often seen as benefiting college performance on the state performance funding metrics. We therefore include these reforms in our analysis, with the caveat that performance funding may not have been the sole or even primary reason for the adoption of these campus-level changes.

6.1 Academic Changes

Academic changes across all of the institutions included in our analysis are presented in Table 4. They generally fall into four categories: developmental education changes, curricular changes and revisions to graduation requirements, changes to academic departments and academic personnel, and changes to instructional techniques.

Table 4
Total Institutional Changes to Academic Policies, Practices, and Programs
Related to Performance Funding Objectives*

Institutional Changes	Number of Institutions That Adopted Changes
Developmental education changes*	10
STEM-field academic changes*	6
Curricular changes and revisions to graduation requirements:	
Better course articulation/easier transfer	8
Cohorts/block scheduling	6
Adding programs/courses	5
Changing number of credits required for completion of degree or part of program (e.g. core curriculum)	5
Concurrent enrollment	3
Curricular changes based on student test scores	2
Credit for life experience	2
Changes in major declaration procedures	1
Grade forgiveness	1
Elimination of programs/courses	1
Emphasis on summer courses	1
Instructional techniques: Online instruction	3
Changes to academic departments and academic personnel issues:	
Program review	1
Follow-up on program review results	1

*Some institutional changes fall under more than one category. Developmental education and STEM-field academic changes were of both curricular and instructional nature and are therefore reported in those categories as well in Tables 5 through 15. Institutional changes mentioned by interviewees were only included in Tables 5 through 15 when responses were corroborated by either another interviewee at the same institution or documentary evidence.

Developmental education changes. Of these four categories, changes to developmental education were identified in more of our case study institutions than any other academic change—a total of 10 out of the 18. In all three states, developmental education changes were promoted not only by performance funding (for example, the Tennessee funding formula rewards successful remediation [Tennessee Higher Education Commission, 2011]), but also by separate statewide initiatives, including the Developmental Education Initiative in Ohio (Quint, Jaggars, Byndloss, & Maggazinik, 2013), a statewide mandate regarding course sequencing in Indiana (Ivy Tech Community College, 2014), and the Developmental Course Redesign Initiative in Tennessee (Boatman, 2012). Our study finds that developmental education changes relate to performance funding program goals and were made at 10 of our institutions around the

time of, or following, performance funding adoption; however, performance funding may be just one of many forces that influenced remediation reform in these states.

Changes to developmental education involved both curricular and instructional changes. A way that one community college in our sample restructured its developmental education was through “pre-term remediation,” in which students could enroll in remedial classes during the summer before their first fall term. A senior administrator at this institution told us, “We got, I guess, 30 percent or so of our new applicants through their remediation requirements in the summer, and so they were ready for college level in the fall.”

In other instances, developmental education students enrolled in developmental courses at the same time as college-level courses. In Indiana, this “corequisite” model is a statewide mandate for community colleges separate from the performance funding component (Ivy Tech Community College, 2014), and it has been promoted by Complete College America (2013, p. 10).

Instructional changes in developmental education provision in the classroom have also been adopted. For example, a nonacademic administrator at one Tennessee community college explained that at that institution:

[I]nstead of calling it remedial and developmental courses now, we call it learning support. And the way those classes are offered has changed as well. They’re offered in a lab type setting with instructional support there, but they’re pretty much self-paced.

STEM-field academic changes. Some institutions have implemented academic changes affecting science, technology, mathematics, and engineering courses, which fall under the category of “STEM,” which includes those four types of courses. We address these changes as a separate category because, like the changes made to developmental education, STEM-field course changes involved both curricular and instructional changes. STEM-field instructional changes were made at six institutions in our sample.

Sometimes, it was clear that STEM-field course changes were being made at an institution, although the details of the changes were somewhat unclear. As an academic administrator in an Indiana community college responded, “I know that there’s a math

committee right now that is trying to revamp that program ... so that the students are meeting requirements for certification.”

Often times, STEM-field instructional changes were made in conjunction with changes to developmental education. Those changes sometimes involved bringing new instructional technology into the classroom. As one Ohio university faculty member told us:

We have changed the delivery of our remedial math course to a mathematics emporium model which is a computer assisted instruction model ... in the library so students work at their own pace through a series of 14 modules. This is a national model that has been in use around the country for over a decade.

Mathematics changes also have involved breaking a complicated course into two separate courses at a university in Tennessee (Authors’ interview TN Univ3 #7). At that same university, the following changes to science instruction were also being made:

We’ve also done something with chemistry, which [was for] many years the most-failed-class on our campus. ... And what we now do, if you’re a student in the middle of the semester and you’re failing chemistry...you have the option of dropping that class, but then jumping right into chemistry 100...you’re going to spend the second half of the semester slowly building a foundation from which we think you then, when you repeat [the more advanced chemistry class] the next year, you can pass it.

In other words, students deemed to be unprepared for a difficult science course were given a different form of science instruction—essentially remedial science training—to teach them at their own level of academic preparedness, with the possibility of returning to the more difficult science course in the future.

Curricular changes. Although some STEM-field academic changes were curricular in nature, more general curricular changes were also made following performance funding adoption. Curricular changes fell into a number of different sub-categories, including better course articulation and transfer, the use of cohorts and/or block scheduling, the addition of programs or courses, changes in the number of credits required to complete a program (or part of a program, such as the core curriculum),

concurrent enrollment, curricular changes based on student standardized test scores, the granting of credit for life experience, changes in procedures for major declaration, modification of grade forgiveness policies, elimination of programs or courses, and an emphasis on summer programs. Below we discuss these curricular changes.

Better course articulation and transfer. The most commonly adopted sub-category of curricular changes was the enhancement of course articulation across campuses (with the goal of easier student transfers), with eight institutions adopting such changes. In Tennessee, there was a statewide legislative mandate to improve articulation that was part of the same legislation that revamped the higher education funding formula, but was separate from performance funding (Complete College Tennessee Act, 2010). Indeed, in 2011 the University of Tennessee and the Tennessee Board of Regents announced a “Guaranteed Transfer Pathways” program, designed to make transfer between the state’s community colleges and most public universities much easier (University of Tennessee, 2011). Tennessee’s performance-based funding formula is also concerned with ease of transfer—it includes metrics rewarding transfers out with 12 or more credits for four-year and two-year institutions (Tennessee Higher Education Commission, 2011).⁸ All of these Tennessee initiatives have a similar goal of improving transfer rates and degree completion. A Tennessee university academic administrator told us the following about institutional efforts to improve transfer and articulation:

[W]e are having meetings on transferring credits statewide where other students, from other state universities, can come in and transfer in and our students can transfer there and they wouldn’t have much of a problem, depending on what they were wanting to major in.

There was state-level influence to enhance course articulation and transfer in Indiana as well (see, for example, Indiana State Senate, 2013). Again, these state initiatives had similar goals to performance funding: to promote college completion and other student outcomes. A faculty member at a university in that state described the statewide pressures to improve course articulation and transfer as follows:

⁸ Ohio’s performance funding program contains a similar metric for community college students who transfer to four-year institutions (Ohio Board of Regents, 2013).

The state's instituted requirements that the general education has to be transferable between various state colleges, completely transferable. So that did influence general education revision on our campus quite a bit.

Cohorts and block scheduling. Other common curricular changes included the creation of cohorts/block schedules and the addition of programs and courses, both occurring at six out of our 18 case study institutions. A cohort approach involves having a largely similar group of students progress through a number of courses together. Block scheduling refers to the scheduling of courses in such ways that students with certain program requirements can take the courses they need in the same semester without scheduling conflicts. Both of these changes are designed to allow for easier course scheduling and the ability of groups of students to take courses together. A senior administrator at an Ohio university explained block scheduling as follows:

Block scheduling was also introduced to provide sort of a cohort, a group of classes to freshmen instead of allowing them to take specific things that they wanted. So there were a number of things like that that were done

And an academic administrator at a Tennessee community college told us the following:

There's more of an emphasis on cohorts. Trying to get as many programs as would be practical to set their courses up and set their sequencing up and cohorts rather than just drop-ins like that. I think one of the things we learned out of this is that students and cohorts tend to start ... of course they start together and finish together, but they tend to complete at a higher rate than people who were just doing it on their own or something like that.

The addition of programs or courses. The addition of programs or courses often involved the creation of new certificate programs in Tennessee, where the 2010 changes to the funding formula rewards institutions for certificate program completions (Tennessee Higher Education Commission, 2011). A senior administrator at one of the state's community colleges explained it in this way:

[T]he one thing we have done as a system is to embrace general education certificates which are shorter term certificates for students to complete their general ed., and those were all approved at system level. We've also approved a couple of other additional certificates and programs that are consortial programs that we've done through the Tennessee Board of Regents.

A change in the number of credits required. A change that was seen at five of the institutions we examined is altering the number of credits required for completion of a program or part of a program. This change included a reduction in the number of credits required for a bachelor's degree to 120, a reduction in the number of credits required for an associate degree to 60, and a reduction in the number of credits that comprise a "core curriculum" requirement. Every university in Indiana reduced bachelor's degree credits to 120 because of a statewide mandate separate from performance funding (see Clark, 2012; Indiana Commission for Higher Education, 2013b). Reducing the number of required credits can help students to complete their programs more quickly. In the words of a senior administrator at an Indiana university, "If you take 30 credits a year, after four years, you're done."

Other curricular changes. Some curricular changes were observed at only a few institutions. Three institutions in our sample engaged in concurrent enrollment, which sometimes refers to the enrollment of current high school students in college courses, and sometimes involves the concurrent enrollment of community college students in university courses. Dual enrollment (which is a form of concurrent enrollment) is a performance metric in Tennessee's higher education funding formula (Tennessee Higher Education Commission, 2011). Two institutions—both community colleges—began awarding college credit for life experience of some nontraditional students.

A couple of curricular changes were seen at only one institution in our sample. One institution eliminated programs or courses following the adoption of performance funding. A practice known as "grade forgiveness," which allows students to reenroll in a course they had already taken to achieve a grade that can replace the earlier grade on their transcripts, was adopted by one institution. And one institution began placing a greater emphasis on summer courses and encouraged students to take courses during the

summer. These changes do not appear to be on their way to becoming widely institutionalized, but they are nonetheless viewed by representatives of the institutions implementing them as relevant to achieving institutional goals under performance funding programs.

Changes to instructional techniques: New and improved online instruction.

The only change to instructional techniques we identified in our sample was the increased or improved use of online instruction. This trend was observed at three institutions. An academic advisor at a Tennessee university said, with respect to a particular program:

[W]e ... made some changes and are continuing to make changes and brought that program from an in-class to an online program to streamline it so that it would be appealing to... students] who were working different schedules, different shifts.

An academic administrator at an Ohio university mentioned that changes made to “e-learning” at that institution were about:

... finding ways as we are doing within the college to handle a significant increase in enrollment with no significant increase in faculty or staff....

Online learning can help nontraditional students, who are not always able to attend face-to-face classes that meet at inflexible times, at particular locations, to complete their programs of study. Under Tennessee’s performance-based funding formula, institutions can receive “a premium of 40 percent for progression and undergraduate degree production data attributable to low-income and adult students” (Tennessee Higher Education Commission, 2011, p. 1). Although such enhancements in online learning may not always be a direct response to new performance funding demands, it is instructive that these changes—which are specifically identified as ways to increase both enrollment and efficiency—are being developed around the same time these institutions are facing new and different institutional performance and funding requirements.

Academic department changes. Two academic changes identified by our respondents fall under the category of academic department changes, and each was identified at only one institution. The first of these changes is program review, observed at an institution in Tennessee. This is unsurprising because in Tennessee program review

is a required performance indicator. Some interviewees at the same institution indicated that another activity of the institution is following up on program review results. A senior administrator at the university indicated that changes made based on program review results could span across the entire institution:

We have made innumerable changes to programs of study as a consequence of having participated in those program reviews: changes in advising; in some cases changes in curricula; in some cases changes in staffing; in some cases changes in assessment protocols; so innumerable.

6.2 Student Services Changes

As displayed in Table 5, ten different categories of student services changes were identified at institutions in our sample. The one student services change that was observed in some form at all 18 institutions involved changes to advising and counseling. Changes to tutoring and supplemental instruction were also commonly adopted, having been observed at two thirds of our case study institutions.

Table 5
Total Institutional Changes to Student Services Policies, Practices, and Programs Related to Performance Funding Objectives

Institutional Changes	Number of Institutions That Adopted Changes
Advising/counseling	18
Tutoring/supplemental instruction	13
Orientation/first-year programs	8
Tuition/financial aid	7
Registration/graduation procedures	7
Student services department/staffing	6
Residence life	3
Job placement services	3
Mentoring	2
Enhanced student organizations	1

Advising and counseling. Changes to advising and counseling included adding more academic advisors or counselors, creating online advising systems, asking faculty members to play more of a role in student advising, and employing retention programs known as “early alert” or “early warning” systems that notify advisors of students who

become in danger of dropping out, so that the advisors can get in touch with them and get them back on the right track. Advising changes such as these are recommended by such organizations as Complete College America (2013) and the Complete College Ohio task force (Ohio Board of Regents, 2012).

All of the institutions in our sample adopted some form of advisement or counseling change. One common change was the use of early warning systems. A senior administrator at an Indiana university described “an early warning system” as follows:

a whole enterprise-wide system that is for the entire university, which faculty and advisors ultimately have in place [to be used] at a very early date when students are struggling so that we can really do our best to help.

Sometimes, institutions implemented multiple types of advising changes. A respondent from an Ohio community college described the following changes to advising at that institution:

[W]e have educated our academic advisors. The first-year students have the academic advisors. The second-year students have faculty advisors. The academic advisors with the first-year students have undergone intensive training to learn about intrusive advising and they have also learned and we’re implementing virtual advising.

The concept of “intrusive advising” often goes hand-in-hand with early warning programs (Complete College America, 2013). As a senior administrator at a Tennessee university explained:

[I]f you’re an engineer and you don’t take calculus the first semester you’re here, you cannot pre-register without seeing an advisor. That advisor would say something like this, “You’re an engineering major, you should have taken calculus first semester. Why didn’t you? You take it next semester. And oh, by the way, we suggest you go to summer school next summer to take Calculus II so you take Calculus III in your first semester as a sophomore because that’s what keeps you on track to get a degree.” So that’s intrusive advising.

Another advising change that was mentioned was the increased use of “degree maps,” described by a faculty member at an Indiana university as “software that tracks

students and keeps them aware on a semester by semester basis of their progress.” In Indiana, these devices were implemented statewide via the state’s higher education commission (Authors’ interview IN Univ3 #1; see also Indiana Commission for Higher Education, 2013a).

Tutoring and supplemental instruction. Another widely adopted institutional change involved tutoring and the provision of supplemental instruction. Tutoring changes consisted of creating new tutoring centers, requiring faculty to meet personally with students, and even online tutoring. As one senior administrator at an online community college told us:

We give free tutoring to all students in anything they want it in related to their courses. And so that’s a great benefit. We have online tutoring system as well as face-to-face, one-on-one.

For at least one community college in our sample, tutoring was particularly important for developmental education students. As a nonacademic administrator at that institution said, “[W]e are putting a lot of resources into helping students get up to college level because so many of our students come in not ready for college level.” In some cases, an institution implemented supplemental instruction that allowed students to attend an extra academic session after their regular classes. For example, an academic administrator at an Ohio university explained:

In terms of tutoring, we have this thing called Supplemental Instruction where undergraduate students sit in on the class and...a session after class on a voluntary basis. They do these in a lot of math classes and a lot of other high enrollment, low performing classes.

Orientation and first-year programs. Other popular student services changes involved revamping orientation and other programs for first-year students. Such changes were observed at eight of our case study institutions. A senior administrator at one Tennessee community colleges described some of the first-year program changes at that institution as follows:

I know one of the big pushes we have is in the student's first year, I know they've done some studies that really tie in a success rate of a student with their first year into college. So, [we've] started a number of first-year programs to help orient the students and to help develop various study habits among the students that will carry them through their college career.... [T]he first year college focus, that came as a result of the [outcomes-based funding] formula plus the Complete College Tennessee Act.

As this quote illustrates, the institution relied on research about the relationship between the first-year experience and college retention in deciding to enhance its first-year programs.

Tuition and financial aid policies. Seven of our institutions also adopted changes to their tuition and financial aid policies following the adoption of performance funding in their states. Tuition and financial aid changes involved creating new scholarships (for example, for special student populations) and providing tuition discounts. Another tuition change was charging students the same tuition for taking 15 credits in one semester as they would be charged for taking only 12. The concept behind this change is to encourage students to take more credits and therefore graduate sooner. Notably, Complete College America (2013) identifies “banded tuition so 15 credits per semester cost students no more than 12 credits” as one of its “Game Changers” for college completion (p. 2). Such initiatives encourage students to take more credits in one semester, which theoretically improves students' chances of completing college and, thus, their goals align with the goals of the completion metrics in performance funding programs.

Registration and graduation procedures. Seven institutions in our sample changed registration procedures and nonacademic requirements for graduation. These changes included such measures as eliminating the graduation fee, prohibiting late registration, simplifying the graduation application process, and changing the course withdrawal period. As a nonacademic administrator at a Tennessee university told us:

We...changed our drop policy, so that students only have the opportunity to withdraw from classes four times during their academic career. Again, this is directly related to keeping them on track. What we learned was that students will take classes over and over and over again, and recognize that those credits don't count for graduation. So, they have [spun] their wheels, taking these courses without the outcome that they had hoped for. And so, making sure they understand how to spend those withdrawals, sort of in a way that makes sense, and understanding that you can't just do that every semester.

Restructuring student services departments and staffing. A third of the institutions in our sample restructured their student services departments and/or staffing. With regard to department restructuring, it often involved either creating new departments designed to manage enrollment issues, or reorganizing student services into one large department, thereby creating what was frequently described as a “one stop shop” for student services. (This strategy is similar to one of the recommendations made by Tinto, 2012.) A senior administrator at an Indiana community college described the purpose of the student services “one stop shop” to be “so the students aren't sent to multiple offices. They can take care of all their business in a central location.” An academic administrator at a Tennessee university described that institution's student services department restructuring as follows:

[W]e created a one-stop, which you know is a place that any student can walk in and really get advice or issues with registration or really just helping them along the way. And that's in our library, staffed you know, many hours a day and just a real easy way.

Student services staffing changes often involved adding new staff to specialize in student retention and success. Such changes also sometimes involved hiring new high-level student services administrators to oversee enrollment management.

Other student services changes. Some student services changes were not widely adopted among the institutions in our sample, but still worth observing. Three institutions enhanced their job placement services program. Perhaps not surprisingly given the specific “job placement” indicator for community colleges in Tennessee's older performance funding program, all three Tennessee community colleges in our sample

adopted job placement services changes. But job placement services changes were also adopted at Tennessee universities and at institutions in the other two states.

Three institutions made changes to residence life: including the development of living-learning communities and increasing the number of students required to live on campus. New or enhanced mentoring programs were implemented at two case study institutions, and one institution focused on improving its student organizations. Only 13 out of our 222 respondents were unable to identify student services changes made at their institutions following any performance funding program adopted in their states.

6.3 Academic and Student Services Changes by State

It is important to understand how changes to institutions’ academic and student services practices differ by state and, thus, in this section, we analyze how such changes differed by state. Table 6 demonstrates the academic changes that we observed at multiple institutions in our sample, listed by state of the institutions.

Table 6
Number of Institutions That Made Changes to Academic Policies, Practices, and Programs Related To Performance Funding Objectives, by State

Institutional Changes	Indiana	Ohio	Tennessee
Developmental education changes	3	4	3
STEM-field academic changes	2	2	2
Curricular changes and revisions to graduation requirements:			
Better course articulation / easier transfer	2	0	6
Cohorts / block scheduling	2	1	3
Addition of programs/courses	1	1	3
Change in the number of credits required for completion of degree or part of program (e.g. core curriculum))	4	1	0
Concurrent enrollment	1	0	2
Curricular changes based on student test scores	0	0	2
Credit for life experience	0	1	1
Instructional techniques: Online instruction	0	1	2
Changes to academic departments and academic personnel issues:			
Program review	0	0	1
Follow-up on program review results	0	0	1

There are some noticeable differences among the states in the academic changes their institutions implemented in the wake of performance funding program adoption. Better course articulation and easier course transfer were the second most common academic change made by institutions in our overall sample, but none of the case study institutions in Ohio adopted such changes while all of the Tennessee institutions in our sample did. In Ohio, the reason for this may be that course articulation and transfer had been reformed there a few years earlier, so there was no need to make further revisions (see Ohio Board of Regents, 2007). With regard to Tennessee, articulation changes have no doubt been influenced by the state’s “Transfer Pathways” initiative, launched in response to the Complete College Tennessee Act in a separate section than the one that revamped the higher education funding formula (Complete College Tennessee Act, 2010; University of Tennessee, 2011).

We also did not observe concurrent enrollment in Ohio, although it was observed in both Indiana and Tennessee, perhaps reflecting the fact that dual enrollment—a form of concurrent enrollment—was a performance funding metric in Tennessee but not Ohio. The fact that one Indiana institution identified concurrent enrollment as a change made in response to performance funding illustrates how performance metrics may influence institutions even after they are removed from funding formulas. Two senior administrators at the university indicated that dual enrollment activities (a form of concurrent enrollment) had been launched when institutions were receiving funding for dual enrollment, and these programs remained operative even after the dual enrollment performance metric was removed (Authors’ interviews IN Univ2 #1, 6). One of these respondents told us:

[W]e started trying to build our dual enrollments with high school students. For a time the state was saying that we would get some sort of performance funding for increasing dual enrollment of high school students. [Q: That was one of the indicators for a while, right?] Yep. And so we made a specialized focus to go out and get additional dual enrolled students from our service area high schools, get some of the schools to participate.

The use of cohorts and block scheduling was seen more frequently in Tennessee than in the other states. Also, three Tennessee institutions added courses or programs,

while only one institution each in Indiana and Ohio did so. Tennessee's additions may be due to the fact that the state's new funding formula rewards community colleges for awarding postsecondary certificates; after it was implemented some Tennessee institutions began offering more certificate programs. However, no Tennessee institutions were observed reducing the number of credits required for a degree or for part of a degree program, while multiple Indiana institutions made such reductions, as did one Ohio institution. Indiana's reductions likely responded to a statewide mandate (see Clark, 2012; Indiana Commission for Higher Education, 2013b) that other states did not experience.

Indiana was the only state in our sample in which no institutions began offering credit for life experience in the wake of performance funding program adoption. Institutions making curricular changes based on student test scores were observed only in Tennessee. For example, one senior administrator at a Tennessee community college said:

[W]e analyze the items on that instrument, those items should point us to specific outcomes and courses that address those competencies that are being measured. Then it should lead to us examining the course and the material that we use....

The fact that Tennessee was the only state to make curricular changes based on test scores is unsurprising, given that the state's older performance funding program requires student standardized testing, and the other two states' programs do not (Jones, 2013; Tennessee Higher Education Commission, 2010).

Table 7 displays the campus-level student services changes by state, for those changes that were made at multiple institutions in our sample. The patterns identified in the analysis of the overall sample remain largely the same, with more institutions in all states adopting advising and counseling changes than any other student services change, and with changes to tutoring, orientation/first-year programs, and tuition/financial aid policies being adopted across all three states. However, one important difference is the fact that no changes to registration or graduation procedures were observed in our Indiana institutions following the adoption of performance funding in that state, although such changes did occur in multiple institutions in Ohio and Tennessee. Residence life and

mentoring program changes were also not observed in Indiana, but institutions in Ohio and Tennessee did alter their residence life and mentoring programs. Job placement services changes were observed in multiple institutions in Tennessee but only one in Ohio and none in Indiana. This is not surprising, given that higher education performance funding in Tennessee recognizes job placement as an indicator, but performance funding in the other two states does not (Jones, 2013; Tennessee Higher Education Commission, 2010, 2011).

Table 7
Number of Institutions That Made Changes to Student Services Policies, Practices, and Programs Related to Performance Funding Objectives, by State

Institutional Changes	Indiana	Ohio	Tennessee
Advising/counseling	6	6	6
Tutoring/supplemental instruction	3	4	6
Orientation/first-year programs	4	2	2
Tuition/financial aid	3	2	2
Registration/graduation procedures	0	3	4
Student services department/staffing	3	1	2
Residence life	0	2	1
Job placement services	1	0	2
Mentoring	0	1	1

6.4 Academic and Student Services Changes by Performance Funding Program

Analyzing campus-level changes following the adoption of different performance funding programs allows us to identify changes that occurred more recently as opposed to several years in the past. This section presents such an analysis. Table 8 depicts campus-level academic changes that occurred at two or more of our case study institutions following four performance funding reforms.⁹

⁹ Findings in this section should be interpreted with caution. First, we do not have as much data on Ohio's 2013 funding formula revision as we did on the state's 2009 reform because most of our interviews occurred either before the 2013 reform took place or shortly thereafter. Second, we do not have as much data on Tennessee's 1979 program as on the state's 2010 funding formula, because the 1979 program began such a long time ago and has in many ways been institutionalized into the state's higher education practices, potentially making it difficult for institutional actors to know whether or not changes are related to the program. Moreover, we did not include Ohio's 1997 Success Challenge program in this analysis because we had so few reports about institutional changes made in response to it. We also did not include Indiana in this section since the state's 2007 reform was barely enacted before it was revised in 2009; thus, Indiana would not provide a good depiction of changes in a state over time.

Table 8
Number of institutions That Made Changes to Academic Policies, Practices, and Programs Related to Performance Funding Objectives, By Performance Funding Program

Institutional Changes	OH 2009	OH 2013	TN 1979	TN 2010
Developmental education changes	4	2	0	3*
STEM-field academic changes	2	1	0	2
Curricular changes and revisions to graduation requirements:				
Better course articulation/easier transfer	0	0	0	6
Cohorts/block scheduling	1	0	1	3
Addition of programs/courses	1	0	0	3
Change in the number of credits required for completion of degree or part of program (e.g. core curriculum)	1	0	0	0
Concurrent enrollment	0	0	1	1
Curricular changes based on student test scores	0	0	2	0
Credit for life experience	1	0	0	1
Instructional techniques: Online instruction	1	1	0	2
Changes to academic departments and academic personnel issues:				
Program review	0	0	1	0
Follow-up on program review results	0	0	1	0

*The three institutions represented here were community colleges. The Complete College Tennessee Act (2010) mandated changes to developmental education that included universities dropping developmental education, which would now be the province of community colleges. The fact that none of our Tennessee university respondents identified developmental education changes in our interviews may be because we asked about changes in response to performance funding and developmental education is not a performance indicator for the universities and because the removal of a developmental education program may not have been viewed as an active institutional change.

Although many of the general patterns observed in the overall sample exist when broken down by performance funding program, there are several interesting observations about changes in institutional response to performance funding in one state over time. Perhaps most notably, Tennessee institutions made changes to developmental education following the adoption of the state's 2010 performance funding program, but not in response to its older program. Indeed, the 1979 Tennessee performance funding program is the only program for which developmental education changes were not made. This difference is unsurprising, however, because the 1979 performance funding program did not include an indicator for developmental education but the 2010 program did. Moreover, the Complete College Tennessee Act (2010) required changes to developmental education, but no legislation accompanying the 1979 program did. Also in Tennessee, institutions were observed adding programs, improving course articulation and transfer, changing STEM-field instruction, offering new or improved online classes,

and offering credit for life experience in the wake of the 2010 performance funding reform; however, none of our respondents identified any of these changes as related to the 1979 performance funding program in Tennessee. There may be a number of reasons for this discrepancy, including the fact that Tennessee's new funding formula bases a much greater percentage of funding on performance than the older program did, which may have prompted institutions to make more changes to campus-level programs and practices. Moreover, Tennessee's new funding formula includes many of these institutional actions as funding indicators. For example, the new formula contains an indicator for certificate completion (Tennessee Higher Education Commission, 2011), which is likely to have contributed greatly to the addition of new certificate programs in the state. However, the Complete College Tennessee Act—part of which contained the performance-based funding formula—also contains a provision requiring better articulation and easier transfer among Tennessee community colleges and universities (Complete College Tennessee Act, 2010).

Table 9 displays student services changes made in at least two institutions of our sample, broken down by the performance funding program to which respondents attributed the changes. Once again, the general patterns remain the same, with a few interesting differences. In Tennessee, changes to registration/graduation procedures were observed at four institutions in response to the new funding formula, but at no institutions in response to the state's older performance funding program. Similarly, changes to student services departments and staffing as well as mentoring programs were observed in the wake of the newer program, but not the older program. Changes to residence life programs were observed at one institution in seeming response to the 1979 program, but none in seeming response to the 2010 funding formula changes.

Table 9
Number of Institutions That Made Changes To Student Services Policies, Practices, and Programs Related to Performance Funding Objectives, by Performance Funding Program

Institutional Changes	OH 2009	OH 2013	TN 1979	TN 2010
Advising/counseling	6	3	3	6
Tutoring/supplemental instruction	4	0	3	6
Orientation/first-year programs	2	0	1	2
Tuition/financial aid	2	2	2	2
Registration/graduation procedures	3	1	0	4
Student services department/staffing	1	0	0	2
Residence life	2	2	1	0
Job placement services	0	0	2	1
Mentoring	1	0	0	1
Enhanced student organizations	0	0	1	1

In Ohio, tutoring and orientation changes were observed at multiple institutions following the adoption of the state’s 2009 program, but not yet in the wake of the 2013 performance funding revision. Once again, the 2013 revision is still new, so such changes may still come. But what is also interesting is that, despite the newness of the 2013 reforms, multiple Ohio institutions have already made changes to advising/counseling, tuition/financial aid policies, and residence life following the 2013 performance funding changes. Although advising/counseling and tuition/financial aid changes are common across all performance funding programs, residential life changes are not. This stands in contrast to what was done in Tennessee, where residence life changes were recognized as a response to the older, but not the newer, performance funding program.

6.5 Academic and Student Services Changes by Institutional Type

Because universities and community colleges are subject to rather different performance funding metrics, the institutional changes made in response to performance funding are likely to differ by institutional type. In this section we analyze how academic and student services changes differ between universities and community colleges. Table 10 analyzes academic changes, and Table 11 student-service changes.

Academically, developmental education changes were observed more frequently at community colleges than at universities, which is unsurprising given that community colleges tend to educate a larger proportion of developmental students than do

universities. Indeed, developmental education changes were observed at eight out of the nine community colleges in our sample, but at only two out of nine universities. This makes sense, given that a major role of community colleges is to provide college access and remedial education to underprepared college students (Bailey, 2009; Cohen, Brawer, & Kisker, 2014; Hughes & Scott-Clayton, 2011). However, changes in the number of credits required to complete a program or part of a program were observed more frequently at the universities in our sample. Adding programs and courses was also observed only at our community colleges, possibly because this change often involved the addition of certificate programs in Tennessee community colleges and because the new funding formula for higher education in that state rewards two-year colleges for certificate completions (Tennessee Higher Education Commission, 2011). Another interesting difference between universities and community colleges we observed is that two community colleges offered credit for life experience but no universities did so, probably because community colleges are more likely to serve nontraditional and returning adult students, who are more likely to benefit from this offering.

Table 10
Number of Institutions That Made Changes to Academic Policies, Practices, and Programs Related to Performance Funding Objectives, by Institution Type

Institutional Changes	Universities	Community Colleges
Developmental education changes	2	8
STEM-field academic changes	4	2
Curricular changes and revisions to graduation requirements:		
Better course articulation/easier transfer	5	3
Cohorts/block scheduling	2	4
Addition of programs/courses	1	4
Change in the number of credits required for completion of degree or part of program (e.g. core curriculum)	4	1
Concurrent enrollment	1	2
Curricular changes based on student test scores	1	1
Credit for life experience	0	2
Instructional techniques: Online instruction	2	1
Changes to academic departments and academic personnel issues:		
Program review	1	0
Follow-up on program review results	1	0

Regarding student services changes, once again, most universities and community colleges implemented changes to advising and tutoring practices in response to performance funding or other concurrent initiatives and mandates. There were no major differences between the universities and community colleges in our sample with regard to the adoption of new or changed student services practices, with the exception of the fact that we observed residence life changes at three universities but at no community colleges. But this difference is expected, given that community colleges are considered “commuter institutions” and frequently do not have student residence halls.

Table 11
Number of Institutions That Made Changes to Student Services Policies, Practices, and Programs Related to Performance Funding Objectives, by Institution Type

Institutional Changes	Universities	Community Colleges
Advising/counseling	9	9
Tutoring/supplemental instruction	6	7
Orientation/first-year programs	3	5
Tuition/financial aid	4	3
Registration/graduation procedures	3	3
Student services department/staffing	3	3
Residence life	3	0
Job placement services	2	1
Mentoring	1	1

6.6 Academic and Student Services Changes by Institutional Capacity

We next analyze academic and student services changes based institutional capacity to respond to performance funding, indexing this capacity according to a college’s revenues per full-time equivalent student, ratings by two specialists in each state on the college’s analytic capacity, and student composition (the proportion of students receiving Pell Grants and the proportion of students in racial and ethnic minority groups). Given that institutions with varying levels of capacity have different resources, priorities, and needs, one might assume that the campus-level changes institutions chose to make following their state’s adoption of performance funding may vary by institutional capacity level. Tables 12 and 13 show the academic and student services changes, respectively, made by institutions of different capacity levels in our sample.

Developmental education changes—identified as our most frequently observed academic change, as reported in Table 4 above—were pretty well dispersed among community college capacity levels, as were changes to course articulation and transfer, which was the second most frequent academic change in our sample. However, STEM-field academic changes were not observed at high-capacity community colleges, although such changes were observed at all other institutional capacity levels in our sample. Another interesting difference in academic changes is the fact that we observed new and improved online instruction only at high-capacity institutions (two universities and one community college), possibly because high-capacity institutions are more likely to have greater resources to support online learning than are lower-capacity institutions.

Table 12
Number of Institutions That Made Changes to Academic Policies, Practices, and Programs Related to Performance Funding Objectives, by Institutional Capacity

Institutional Changes	Univer- sity High / Research Intensive	Univer- -sity High	Univer- sity Low	CC High	CC Medium	CC Low
Developmental education changes	0	1	1	3	2	3
STEM-field academic changes	1	2	1	0	1	1
Curricular changes and revisions to graduation requirements:						
Better course articulation/easier transfer	1	2	2	1	1	1
Cohorts/block scheduling	0	1	1	2	1	1
Addition of programs/courses	0	1	0	1	2	1
Change in the number of credits required for completion of degree or part of program (e.g. core curriculum)	1	1	2	0	0	1
Concurrent enrollment	0	0	1	1	1	0
Curricular changes based on student test scores	0	0	1	1	0	0
Credit for life experience	0	0	0	0	1	1
Instructional techniques: Online instruction	2	0	0	1	0	0
Changes to academic departments and academic personnel issues:						
Program review	0	1	0	0	0	0
Follow-up on program review results	0	1	0	0	0	0

With regard to notable differences by capacity level in student services changes, only high-capacity institutions—two universities and one community college—made changes to job placement services. This finding makes sense because high-capacity institutions are more likely to be better equipped to make career services changes than are lower capacity institutions. Indeed, it would make sense that institutional revenues (one of the criteria we used to measure institutional capacity) would be related to the ability of an institution to develop a strong career services department. With regard to the main student service changes shown in Table 5 above, there was little difference by institutional capacity in the number of institutions reporting changes in advising or tutoring. There were, however, differences in the less frequently reported changes such as orientation/first-year programs, tuition/financial aid, and job placement services. Only one out of six high-capacity universities and one out of three low-capacity community colleges made changes to orientation/first-year programs, but two each of other institutional types did so. Tuition and financial aid changes demonstrate an even more erratic pattern, with two high- and low-capacity universities, two medium-capacity community colleges, and one low-capacity community college making such changes, but no high-capacity community colleges making such changes. Also interesting is the fact that tuition and financial aid changes were made only at medium- and low-capacity community colleges in our sample, but such changes were made at both high- and low-capacity universities. Otherwise, there were not too many differences by institutional capacity level regarding student services changes made following performance funding adoption.

Table 13
Number of Institutions That Made Changes to Student Services Policies, Practices, and Programs Related to Performance Funding Objectives, by Institutional Capacity

Institutional Changes	University High / Research Intensive	University High	University Low	CC High	CC Medium	CC Low
Advising/counseling	3	3	3	3	3	3
Tutoring/supplemental instruction	2	2	2	2	3	2
Orientation/first-year programs	0	1	2	2	2	1
Tuition/financial aid	2	0	2	0	2	1
Registration/graduation procedures	1	1	1	2	1	1
Student services department/staffing	1	1	1	2	0	1
Residence life	1	1	1	0	0	0
Job placement services	1	1	0	1	0	0
Mentoring	0	0	1	1	0	0

6.7 References to Institutional Changes by Respondent’s Professional Position

Because different types of higher education personnel have different perspectives on the institution, it may be the case that their perceptions of their organization’s responses to performance funding may differ based on their professional position. Thus, we analyzed our interview data to determine whether any patterns emerged with respect to academic and student services changes identified and the position of the respondents identifying them. Table 14 shows academic changes referenced by respondents in different professional positions; Table 15 does the same for student services changes. Overall, the most commonly observed academic and student services changes were often those most frequently mentioned by all types of institutional respondents.

With regard to academic changes, change in developmental education was mentioned by all categories, particularly by senior administrators. Senior administrators and faculty were the respondents who most often mentioned changing the number of credits required for program completion. Academic staff (faculty and mid-level academic administrators) were more likely to talk about STEM-field instructional changes than were nonacademic staff, possibly because academic staff have greater experience with the details and implementation of these changes than do nonacademic staff.

Table 14
Number of Respondents Who Identified Changes Made on their Campuses to Academic Policies, Practices, and Programs Related to Performance Funding Objectives, by Respondent's Position

Institutional Changes	Senior Administrators	Mid-Level Nonacademic Administrators	Mid-Level Academic Administrators	Faculty
Total number interviewed	80	35	47	60
Developmental education changes	23 (29%)	5 (14%)	8 (17%)	11 (18%)
STEM-field academic changes	2 (3%)	1 (3%)	4 (9%)	7 (12%)
Curricular changes and revisions to graduation requirements:				
Better course articulation/easier transfer	5 (6%)	1 (3%)	3 (6%)	2 (3%)
Cohorts/block scheduling	7 (9%)	3 (9%)	6 (13%)	3 (5%)
Addition of programs/courses	4 (5%)	3 (9%)	1 (2%)	5 (8%)
Change in the number of credits required for completion of degree or part of program (e.g. core curriculum)	14 (18%)	2 (6%)	6 (13%)	10 (17%)
Concurrent enrollment	2 (3%)	1 (3%)	1 (2%)	0
Curricular changes based on student test scores	1 (1%)	1 (3%)	2 (4%)	0
Credit for life experience	1 (1%)	0	2 (4%)	0
Changes in major declaration procedures	2 (3%)	1 (3%)	1 (2%)	1 (2%)
Grade forgiveness	2 (3%)	1 (3%)	1 (2%)	0
Elimination of programs/courses	0	0	2 (4%)	0
Emphasis on summer courses	2 (3%)	0	0	0
Instructional techniques: Online instruction	1 (1%)	1 (3%)	2 (4%)	1 (2%)
Changes to academic departments and academic personnel issues:				
Program review	5 (6%)	0	0	0
Follow-up on program review results	3 (4%)	0	0	0

Note. The percentages shown in this table refer to the percentages of each type of institutional employee that provided these responses (e.g., 29 percent of senior administrators in our sample provided responses about developmental education changes).

With regard to student services changes, all categories of respondents frequently mentioned advising or tutoring changes, though the largest proportion mentioning them was among mid-level academic administrators. However, there were some differences on the lesser mentioned student service changes. For example, senior administrators and faculty members were more likely than mid-level administrators to talk about changes made to student services staffing and organization, while mid-level non-academic administrators more often mentioned changes in registration and graduation procedures.

Table 15
Number of Respondents Who Identified Changes Made on Their Campuses
to Student Services Policies, Practices, and Programs
Related to Performance Funding Objectives, by Respondent's Position

Institutional Changes	Senior Administrators	Mid-Level Nonacademic Administrators	Mid-Level Academic Administrators	Faculty
Total number interviewed	80	35	47	60
Advising/counseling	46 (58%)	15 (43%)	29 (62%)	26 (43%)
Tutoring/supplemental instruction	16 (20%)	5 (14%)	12 (26%)	7 (12%)
Orientation/first-year programs	16 (20%)	5 (14%)	7 (15%)	9 (15%)
Tuition/financial aid	8 (10%)	4 (11%)	5 (11%)	4 (7%)
Registration/graduation procedures	8 (10%)	6 (17%)	2 (4%)	7 (12%)
Student services department/staffing	10 (13%)	4 (11%)	3 (6%)	9 (15%)
Residence life	5 (6%)	1 (3%)	3 (6%)	3 (5%)
Job placement services	0	2 (6%)	1 (2%)	3 (5%)
Mentoring	2 (3%)	0	1 (2%)	1 (2%)
Enhanced student organizations	1 (1%)	0	1 (2%)	0

Note. The percentages shown in this table refer to the percentages of each type of institutional employee that provided these responses (e.g., 58 percent of senior administrators in our sample provided responses about advising/counseling changes).

7. Isomorphism and the Institutionalization of Campus Changes: An Analysis

Our findings demonstrate that several types of campus changes made following the adoption of higher education performance funding policies are on their way to becoming institutionalized, if they are not already institutionalized. They include changes to developmental education, course articulation, advising and counseling services, tutoring and supplemental instruction, and orientation and first-year programs. All of them were observed in at least eight institutions in our sample and were consistently identified (with a few notable exceptions) across states, performance funding programs, and institutional type and capacity levels. They were also frequently cited (again, with a few notable exceptions) by respondents holding a variety of different professional positions. Higher education institutions that have adopted these policy, program, and practice changes are becoming *isomorphic* (DiMaggio & Powell, 1991) with each other in terms of their academic and student services features designed to improve student outcomes.

When government entities incentivize or mandate that higher education institutions adopt certain practices, *coercive isomorphism* takes effect. Coercive isomorphism is also indicated by some other institutional changes that closely mirror performance funding indicators. For example, community colleges in Tennessee recently developed new certificate programs, and certificate program completion was included as an indicator under the 2010 funding formula in Tennessee. Coercive isomorphism is seen even more clearly in the enactment of statewide mandates, such as degree maps and a reduction in the number of credits for a bachelor's degree in Indiana (Clark 2012; Indiana Commission for Higher Education, 2013b) and statewide transfer and articulation reform in all three states (Indiana State Senate, 2013; Ohio Board of Regents, 2007; University of Tennessee, 2011). State mandates are separate from performance funding but promote similar goals, such as increased college completion rates. They also have the effect of causing institutions to adopt programs and practices similar to each other's, and in a much more direct manner than either normative or mimetic isomorphism.

There is also evidence that the influence of social and professional norms—or *normative isomorphism* (DiMaggio & Powell, 1991)—may have played a role in the widespread adoption of certain institutional changes. Many of the state policy initiatives and campus-level changes frequently adopted by colleges and universities in our sample are similar to institutional changes promoted by Complete College America (2013). Interestingly, some of the words used by our respondents are found in Complete College America's list of "Game Changers" (2013). For example, Complete College America (2013) discusses specific types of advising such as "[e]arly warning systems" (p. 22), "degree maps" (p. 23), and "intrusive advising" (pp. 20, 23). As illustrated above, these exact phrases appeared in several of our respondents' statements about advising changes on their campuses. Complete College America (2010) also recommends that "states and institutions should enact caps of 120 credits for a bachelor's degree and 60 credits for an associate degree" (pp. 1-2). In addition, many of the commonly adopted institutional changes also appear in Tinto's (2012) analysis of campus-level changes that can promote college persistence. Tinto (2012) specifically describes the enhancement of first-year programs, advising, tutoring, and developmental education as well as the elimination of late registration as campus-level changes that could help to promote college persistence.

Some other commonly adopted institutional changes—such as cohorts, block scheduling, and the creation of “one stop shops” for student services—are reflected in Tinto’s (2012) discussions of learning communities, course schedule improvement, and the centralization of student services departments. To the extent that research on college persistence influenced institutional personnel—some of whom may have studied higher education in graduate school—to adopt particular practices on their campuses, normative isomorphism may have played a role.

Every institution in our sample adopted changes to advising and counseling practices, and all but one community college in our sample adopted changes to developmental education. Although these findings may indicate that institutions were imitating one another, a phenomenon known as *mimetic isomorphism* (DiMaggio & Powell, 1991), the fact that so many campuses adopted these changes is not in itself evidence of mimetic forces. Additional research is needed to determine the extent to which institutions imitated the practices of other, similar institutions. Indeed, in the case of institutional changes designed to improve college completion, the isomorphism between institutions is likely to have been driven more by coercive than mimetic forces.

To the extent that organizations seek to emulate other organizations in the same field that are deemed successful (DiMaggio & Powell, 1991), however, evidence of mimetic isomorphism may be reflected in the adoption by lower capacity organizations of practices similar to those adopted by higher capacity organizations. In other words, we would expect to see low-capacity institutions adopt the same or similar policies as high-capacity institutions. Other than changes to advising and counseling, which were adopted by all institutions in our sample, no changes that were unanimously adopted by high-capacity universities were also adopted by all low-capacity universities. Among our case study community colleges, all three of the low-capacity colleges adopted developmental education changes, as did all three of the high-capacity colleges (and two of the medium-capacity colleges). However, there were no other instances where high-capacity community colleges adopted a particular program or practice that all low-capacity community colleges in our sample also adopted. And the developmental education changes are likely to have been influenced by statewide mandates and other initiatives, which are more coercive and normative than mimetic. Additional research into how

institutional actors came up with their ideas for campus-level changes can shed further light on the extent to which mimetic isomorphic forces were at work here.

Finally, we identified a few interesting policy, practice, and program changes on one campus that were not on their way to institutionalization but are nonetheless worth noting. Grade forgiveness, a practice at one university, allows students to retake courses and replace a low grade with a high one. One university changed its procedures for declaring majors, one university placed greater emphasis on students' enrollment in summer courses, and one university focused on enhancing its student organizations. These are interesting changes and designed to promote outcomes sought by performance funding programs. The fact that changes such as these have not been more widely adopted may relate to the fact that neither coercive, normative, nor mimetic isomorphic forces influenced their adoption. The changes do not closely resemble any performance indicators, and they are not specifically cited in best practices recommendations by organizations such as Complete College America (2013). Further, because these changes were observed on very few campuses, it is unlikely that they constituted a practice that was copied from another institution. Our findings indicate that practices not developed through isomorphic forces will have a more difficult time becoming widely adopted and institutionalized. Yet, because institutional representatives apparently believed that these changes may help improve student outcomes on their campuses, they should not be discounted and should be analyzed in the future to determine what, if any, influence they have on institutional performance.

8. Summary and Conclusions

This paper describes findings from a large, qualitative case study of the implementation of performance funding for higher education in the states of Indiana, Ohio, and Tennessee. The research questions inquired specifically about how universities and community colleges of varying levels of institutional capacity in all three states have altered their academic and student services policies, practices, and programs in ways that relate to the achievement of the goals of their states' higher education performance funding programs. The study also examined how the adoption of such campus-level

changes differed by state, performance funding program, institutional type, and institutional capacity level. Lastly, it investigated the extent to which performance funding has been perceived as being influential over campus-level changes.

The major findings from this study are as follows:

- Performance funding is but one of several concurrent external influences that seek to improve higher education institutional outcomes. States have legislatively mandated such institutional changes as lowering the number of credits required for a degree, enhancing course articulation and transfer, developmental education reforms, and the use of degree maps. State agencies and task forces (such as Complete College Ohio) also make recommendations regarding campus-level changes, which institutions may take into account when redesigning their programs, practices, and policies (see, for example, Ohio Board of Regents, 2012). Institutions are also influenced by accreditors and foundations and other nonprofit associations that fund or otherwise advocate for particular reforms. In light of all of these concurrent influences, it is difficult (if not impossible) to disaggregate the influence of performance funding from the influence of other external influences on institutions' decisions to make particular campus-level changes.
- Perhaps for this reason most of our respondents felt that performance funding did not have a high level of influence on institutions' decisions to make the campus-level changes identified. The modal respondent indicated a medium level of influence. Respondents rating the impact of performance funding as low or medium often observed that performance funding was frequently only one force among many that factored into institutional decisions.
- The most commonly made campus-level academic change following performance funding adoption was the altering of developmental education. This finding was particularly strong at community colleges, but also at some universities. Performance funding provided an incentive for changing development education insofar as the program's success was a performance measure for community colleges in Ohio and Tennessee. However, in all three states, developmental education reform was mandated or incentivized by legislation or other initiatives

separate from performance funding, in addition to being incentivized by performance funding itself. For example, Ohio and Tennessee participated in privately sponsored developmental education reform initiatives (Boatman, 2012; Quint et al., 2013), and certain curricular changes to developmental education were required under a statewide policy in Indiana (Ivy Tech Community College, 2014). Thus, although the goals of developmental education reform are certainly consistent with the goals of performance funding in all three states, other forces were influential over developmental education reform as well. It is difficult to know the extent, if at all, that performance funding influenced these changes.

- Another common academic change was improvement in course articulation and transfer. Transfer numbers are a performance funding metric in Ohio and Tennessee. But again, in all three states, such changes were mandated statewide through separate policies from performance funding; however, all of these policies appear to have a similar goal as recent performance funding reforms—to promote college completion.
- Other commonly adopted academic practices include the use of cohorts and block scheduling, adding programs and courses, and changing the manner in which courses in the STEM-fields are taught.
- The most commonly made campus-level student services change following performance funding adoption has been the altering of advising and counseling services (including the use of early warning systems, degree maps and audits, and involving more faculty in advising, among other changes). Changes in these services were clearly seen as helping to improve institutional performance on performance funding metrics for credit accrual and degree completion. However, some components of student advising (for example, degree maps in Indiana) were mandated by a statewide policy independent of performance funding. Next to advising, student services changes made most frequently involved tutoring and supplemental instruction. With a few exceptions, alterations to advising and tutoring have been the most common student services changes across our three states, all performance funding programs, both institutional types, and all levels of institutional capacity.

- Other commonly adopted student services practices include changes to tuition and financial aid policies, modifications of registration and graduation procedures, and the restructuring of student services departments and staffing (including creating a “one stop shop” for many student services).

We examined campus-level changes made following performance funding program adoption through the theoretical lens of institutional isomorphism (see DiMaggio & Powell, 1991). This theoretical perspective proved to be instructive in explaining why certain campus-level changes were widely adopted while others were not. For academic and student services changes that were uniformly or largely adopted across our sample, multiple types of isomorphic forces were observed. Coercive isomorphism was seen in statewide mandates (for example, degree maps and changes in the number of credits required for completion in Indiana) and campus-level changes that closely follow performance funding indicators (for example, the adoption of certificate programs following Tennessee’s 2010 funding formula, or job placement services in response to Tennessee’s 1979 program). Normative isomorphism was seen in best practices recommendations by external policy groups (see, for example, Complete College America, 2013) and university-level research findings that some of the most commonly adopted campus-level changes may be effective ways to improve student outcomes (see, for example, Tinto, 2012). Additional research is needed to determine the extent to which institutions of lower capacities imitated the practices of higher capacity or more prestigious institutions. Although it is possible that the common practices of advising and developmental education changes were imitated from other institutions, powerful coercive and normative forces such as legislation separate from performance funding, statewide initiatives, and recommendations from state-level task forces such as Complete College Ohio (Ohio Board of Regents, 2012) were also at work.

We also note that it may be impossible to identify precisely which isomorphic forces have been influential over particular institutional changes made following the adoption of performance funding policies. Many sources of coercive isomorphism (such as statewide initiatives and mandates, or the terms of funding policies themselves) recommend the same campus-level changes as some normative sources of isomorphism (such as best practices recommendations, or university research into the types of practices

that can promote positive student outcomes). Indeed, policymakers and state-level officials that catalyze coercive isomorphism may actually themselves be influenced by normative forces in the first place. And when mimetic forces lead an institution to mimic another institution by adopting similar policies, the practices being imitated may have been initially developed based on coercive and/or normative forces. The fact that it may be impossible to disentangle the various types of isomorphism that led to the widespread adoption of certain practices is not problematic, however. It is more important to note that the campus-level changes made following performance funding adoption that are quickly becoming institutionalized have experienced multiple forms of isomorphic promotion.

It is also important to understand which practices are becoming (or have been) institutionalized through isomorphism, because institutionalization renders a practice automatically legitimate regardless of whether it is actually effective or efficient (DiMaggio & Powell, 1991; Meyer & Rowan, 1991). In the case of campus-level academic and student services changes made following the adoption of higher education performance funding, these institutionalized practices appear to include changes to advising, tutoring and supplemental instruction, orientation and first-year programs, tuition and financial aid policies, developmental education, registration and graduation procedures, course articulation and transfer, and student services departmental organization. It will be important for researchers and practitioners to continue to observe these practices to ensure they are effective at enhancing institutional outcomes. In addition, some practices (such as enhancing student organizations and encouraging summer course enrollment) may be effective ways to improve outcomes, but they have not been institutionalized because few, if any, isomorphic forces are promoting such practices. Researchers and practitioners should remain mindful of these practices, as they are in danger of being overlooked—regardless of whether they are effective or not—simply because of their lack of institutionalization.

Finally, it is important to recognize the fact that numerous external and internal influences other than performance funding may lead institutions to adopt policy and practice changes designed to enhance institutional outcomes. Some of these influences are highly coercive (for example, statewide mandates) while others are much less direct (for example, the desire for institutional prestige). Performance funding is but one force

that influences institutions to alter their behavior as well as their practices and programs. Although it may be impossible to determine the precise extent to which performance funding has influenced institutions to adopt the academic and student service changes presented in this paper, most of our respondents believed that performance funding had at least a medium-sized influence on their colleges' adoption of campus-level changes. This indicates that performance funding is indeed having an impact on institutional behavior, even if it is impossible to know the extent to which performance funding influences the adoption of particular practices.

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