

Performance Funding on the Ground: Campus Responses and Perspectives in Two States

Abstract

Amy Y. Li,
University of Northern
Colorado

William Zumeta,
University of Washington

This study investigates the campus implementation of performance funding, a policy that funds public colleges based on student outcomes, in Pennsylvania and Ohio. Focusing on four-year colleges, principal-agent theory is applied to conceptualize the relationship between policymakers and campuses, as well as among different professional roles within four select campuses. We conducted semi-structured interviews of 47 state-level policymakers and campus officials at four universities in the two states, occupying three role categories (high-level administrator, mid-level administrator, and faculty and staff). Findings suggest that, in Pennsylvania, strong faculty unions restrict campus budget flexibility and prompt campus administrators to create special incentives for faculty to pursue targeted retention activities for students. Also in Pennsylvania, both system and campus officials report difficulties in providing performance data in a timely way for optimal budget planning. In both Ohio and Pennsylvania, campuses respond to performance metrics, particularly for underrepresented student populations, with efforts and plans to incorporate more centralized data analytics to track and improve student progress. In addition, policymakers and administrators in both states tend to portray higher education to a considerable degree as a business enterprise, recognizing that strategic revenue generation is increasingly necessary to operate in state environments with declining or stagnant funding from traditional sources.

This *Research Dialogue* is based upon part of Dr. Li's Ph.D. dissertation completed in 2016 at the University of Washington's College of Education. She conducted the majority of the field interviews and had primary responsibility for data analysis and interpretation under Professor Zumeta's guidance. The research was supported primarily by a grant from the TIAA Institute under Grant #63-0151. Dr. Li's time also was supported in part by a Dissertation Grant from the American Educational Research Association which receives funds for its "AERA Grants Program" from the National Science Foundation under Grant #DRL-0941014. Opinions reflect those of the authors and do not necessarily reflect those of the granting agencies.

Any opinions expressed herein are those of the authors, and do not necessarily represent the views of TIAA, the TIAA Institute or any other organization with which the authors are affiliated.

Introduction

Performance funding is a state policy that seeks to apply private sector-like financial incentives to public higher education. Briefly, the policy utilizes a prescribed funding formula to tie a portion of state appropriations to public institutions according to specific student outcome metrics such as retention rates and degree completions (Burke, 2002; Dougherty & Reddy, 2013). As of January 2016, 30 states were operating an existing or developing a new performance funding policy (Snyder & Fox, 2016). States are raising the percentages of state appropriations tied to funding to as high as 80% to 100%, to incentivize institutions to change campus practices and, ultimately, increase college completion (Snyder, 2014). Metrics frequently incentivized via performance funding include undergraduate retention rates and total number of degrees awarded, with some states also awarding extra funding for enrollment, retention, and graduation of underrepresented students (i.e., first-generation, Pell grant recipients, and underserved racial and ethnic groups) and completions in “high demand” STEM fields (science, technology, engineering, and mathematics) (Li, 2014; National Conference of State Legislatures, 2016).

In contrast to the earlier generation of performance funding policies (often termed “PF 1.0”) that allocated bonus funding for performance, a new wave of policies (“PF 2.0”) holds back a portion of an institution’s base budget until institutions “earn” this funding by achieving or exceeding performance targets (Dougherty & Reddy, 2013). PF 2.0 is an accountability tool that emerged in part from the effects of the Great Recession and decreasing taxpayer revenue, as well as from dissatisfaction with results from earlier efforts. Performance funding policies gained prominence in an environment of public perceptions of wasteful spending in higher education, and amidst concerns over rising tuition costs, increasing student loan debt, and disconcertingly low college completion rates (Li & Zumeta, 2015; National Center for Education Statistics, 2015). State policymakers and certain philanthropic foundations are strong proponents of the policy, which incorporates basic private-sector logic to financially reward organizations for desired outputs, with the expectation that organizations will alter practices to secure this money.

Despite the underlying logic behind performance funding and the policy’s recent proliferation, studies have found minimal evidence to support any aggregate impact of the policy on undergraduate degree outcomes nationally at

four-year colleges (Rutherford & Rabovsky, 2014; Tandberg & Hillman, 2014), two-year colleges (Tandberg, Hillman, & Barakat, 2014), or in state-specific analyses of Tennessee (Sanford & Hunter, 2011), Pennsylvania (Hillman, Tandberg, & Gross, 2014), and Washington (Hillman, Tandberg, & Fryar, 2015). In addition, qualitative research conducted primarily in Indiana, Ohio, Tennessee, and Washington has found that while high-level administrators are knowledgeable about performance funding, mid-level administrators and faculty are less informed and less likely to take responsibility for responding to the policy (Dougherty & Natow, 2015; Jenkins, Wachen, Moore, & Shulock, 2012; Li, 2016).

Moreover, research on faculty and staff responsiveness to performance funding policies is limited. A recent study in Washington state found that faculty tended to be less receptive to the logic behind performance funding, and staff such as academic advisors were especially uninformed about the policy (Li, 2016). Yet, in many respects, faculty and staff are the very individuals that performance funding ultimately targets. These individuals work on the ground with undergraduate students, interacting with them in both formal and informal contexts. Scholars have suggested that faculty affect student retention and completion both inside and outside the classroom (Braxton, 2008; Pascarella, Seifert, & Whitt, 2008). Moreover, academic advisors and financial aid counselors are positioned to help students achieve the very outcomes measured and rewarded in performance funding, such as year-to-year retention, retention of students with financial need, and timely completion of degree programs. Finally, both faculty and staff create environments that support (or do not support) student retention—the central goal of performance funding policies (Reason, 2009; Tinto, 1998).

The purpose of this study was to investigate the campus-level implementation of PF 2.0 in two long-prominent performance funding states that recently redesigned their policies. Pennsylvania has a history of performance funding that began in 2002 for the 14 universities in the Pennsylvania State System of Higher Education (PASSHE). A 2010 policy redesign took steps to account for the effects of reduced state support and provided universities more flexibility in choosing optional metrics and in designing institution-specific metrics (Cavanaugh & Garland, 2012). These changes offered an opportunity to research the feedback loop whereby institutional feedback gets incorporated into policy redesigns.

Our second focal state was Ohio. Ohio's history of PF 1.0 began with its "Success Challenge" in 1996, a policy that rewarded institutions for performing research in technology-oriented fields considered important for the state's economic future. This policy continued until 2009 when an ambitious PF 2.0 policy was first enacted (Dougherty & Reddy, 2013). The PF 2.0 policy was implemented in phases from 2010 to 2014, progressively moving toward 100% outcomes-based funding for four-year institutions starting in FY 2015, despite the transition from a governor of one party to one from the opposite party in 2011 (Ohio Board of Regents, 2014; Snyder & Fox, 2016). A previous study of campuses in Ohio using data from fall 2011 to fall 2013 uncovered obstacles to accomplishing performance goals, such as insufficient campus knowledge of the policy and institutional resistance (Pheatt et al., 2014). By collecting data beyond 2013, we aimed to explore whether these campus perspectives may have changed.

In this study of Pennsylvania and Ohio, we posed the following research questions:

1. According to state policymakers and college administrators, faculty, and staff, how is performance funding expected to work? What policy tools are being employed to make it work?
2. Have state policymakers responded to institutional feedback? How are policies being redesigned, revised, or refined over time?
3. What is happening at campuses in the implementation phase? How have administrators, faculty, and staff responded to the policy? Do these responses appear consistent with long-term efficacy in achieving the policy's goals?

Conceptual framework

Because the present study aimed to examine how campuses respond to performance funding policies designed at the state level, we applied principal-agent theory. In this conceptual framework, the principal and the agent enter into a formal or informal contract in which the agent is charged with carrying out certain actions to deliver results aligned with the principal's goals (Lane, 2007). In this study, principal-agent theory frames two key relationships. First is the relationship between state policymakers as the

principal and campuses as the agent, in which the principal expects the agent to accomplish goals including greater student retention and completion (Kivistö, 2008; Weimer & Vining, 2011). Yet, the classic principal-agent problem arises because principals and agents often have different interests and because it is implausible for the principal to fully monitor the agent's actions (Bohren, 1998). Therefore, principals design structures, using policy tools such as financial incentives, to try to align interests between the two entities (Stone, 2012). Recent studies conducted by Hillman et al. (2014, 2015) have applied principal-agent theory to conceptualize performance funding with the state-level oversight body conceived as the principal and campuses as agents charged with producing improved student outcomes for the state.

The second key principal-agent relationships of interest exists at the institution level. In order for campuses to meet state goals for college completion, campus leaders may need to communicate such goals using policy tools such as information dissemination, facilitation measures, and internal financial incentives (Stone, 2012). An institution consists of multiple layers of principal-agent relationships, with each level from president to entry-level staff conceivably possessing distinctive incentives and interests. Consistent with Li's (2016) proposed framework, campus leaders become both principal and agent. For instance, a president aims to improve on the performance funding metric of first-to-second-year student retention, which stimulates actions from the provost and the vice president of student affairs—both of whom occupy the role of agent. These two agents also take on the role of principal, by communicating and collaborating with their respective deans and directors (e.g., of institutional research, student engagement) to establish specific tactics and measures to improve retention. At the next layer, a dean may charge department chairs and faculty to assess course completion rates and what might be done to improve them, while a director of centralized undergraduate advising may task academic advisors to ensure students register for appropriate second-year courses that facilitate their progress. In short, information about external policies such as performance funding gets filtered within a campus.¹

1. The within-campus principal-agent relationship does not imply strictly a top-down direction of all actions, since faculty can influence actions of high-level administrators as well as vice-versa.

In connection to the principal-agent relationship, policy implementation is what occurs between the determination of a policy's targeted outcomes by policymakers and the perceived or actual policy results (DeLeon & DeLeon, 2002). Implementation also concerns "whether, and how, policy-making principals control the discretion of their implementing agents" (Meyers & Vorsanger, 2003, p. 246). In this study, implementation is defined as the ways in which college administrators, faculty, and staff respond to performance funding policy goals through their actions.

Method

Framed within principal-agent theory, this study investigated the alignment of goals between states and campuses, and across multiple roles within campuses to capture a nuanced picture of policy implementation of PF 2.0 in Pennsylvania and Ohio. In this methods section, we provide a brief overview of performance funding policies in the two focal states. We also describe the sampling process regarding selection of state-level policy organizations and a total of four institutions for detailed study, as well as the sampling of administrators, faculty, and staff within those institutions. Forty-seven individuals participated in the semi-structured interviews covered in this report. At the end of this section, we explain the steps in our data analysis employed to uncover findings on campus responses, policy tools, and the dynamics of policy redesigns.

Selecting states

This study's research design incorporated purposeful sampling to select two focal states, policymaking organizations and campuses within these states, and individual participants (Merriam, 2009). We chose Pennsylvania for several reasons, the first being its long performance funding history. The Pennsylvania State System of Higher Education² (PASSHE) first adopted performance funding in 2002 for its 14 institutions, allocating 8% of base state appropriations based on improvements in retention rates, degree completions, research productivity, and institutional efficiency, among other metrics (Cavanaugh & Garland, 2012). Our second reason for selecting

Pennsylvania was the policy revision that occurred in 2010, providing an opportunity to address our research question regarding the dynamic flow of feedback between state policymakers and institutions, whereby institutional feedback gets incorporated into policy redesigns. As a part of this policy revision, starting in FY 2012-13, the state system began allocating 2.4% of its total operating budget (rather than 8% of state appropriations, as was previously the case), based on performance metrics as an adjustment to "stabilize the amount of performance funding as state appropriations declined rapidly" (Cavanaugh & Garland, 2012, p. 37). State appropriations had been cut by 18% following the Great Recession and remained at the lower level in subsequent years.

In this study, the policy change of primary interest is that the redesigned policy allowed mission differentiation in performance metrics. Under this change, each university is funded by PASSHE based on a total of 10 metrics from three groups of metrics (Groups 1, 2, and 3). Group 1 consists of mandatory metrics such as the number of associate's degrees, bachelor's degrees, and graduate degrees conferred; total bachelor's degrees per FTE student; and separate metrics for completions among Pell-eligible students and those from underrepresented racial groups (defined in Pennsylvania as African American and Hispanic/Latino) to emphasize access goals. Each campus then chooses three to five metrics from Group 2, which includes third- to fourth-year retention, STEM degrees awarded, credit-hour productivity, and FTE student/FTE employee productivity. Lastly, Group 3 metrics are specific to institutional strategic plans, developed by institutional leaders with considerable attention and approval from the system's chancellor (Cavanaugh & Garland, 2012). A third reason for selecting Pennsylvania as a focal state was that a study conducted by Hillman et al. (2014) utilizing a multivariate quasi-experimental design concluded that the performance funding policy (in its earlier manifestations) did not measurably impact degree completions over a considerable period of time, once other factors were considered. Therefore, Pennsylvania offered an opportunity to conduct qualitative research to reveal campus attitudes towards a policy that researchers had deemed ineffective.

2. The Pennsylvania State System of Higher Education (PASSHE) is the governing board responsible for oversight of the 14 universities in this system. The Board of Governors "establishes broad educational, fiscal, and personnel policies. Among other tasks, the Board appoints the chancellor [Chief Executive Officer of the State System] and each university president, approves new academic programs, sets tuition, and coordinates and approves the annual State System operating budget" (Pennsylvania State System of Higher Education, 2016). Note that PASSHE does not include Pennsylvania's several "state-related" public universities such as Pennsylvania State University, Temple University, and the University of Pittsburgh. These are research universities, while the PASSHE institutions are primarily teaching focused.

The second state focal state we selected was Ohio, which is particularly fascinating because it is one of a few states that now distributes nearly 100% of state higher education appropriations based on performance metrics. Ohio's PF 2.0 policy was adopted in 2009 and, after a policy phase-in period from enrollment-based to outcomes-based funding, by FY 2015 institutions received state funding based purely on courses and degrees completed (HCM Strategists, 2011; Ohio Board of Regents, 2014). The formula provides extra weight for STEM courses and degrees, as well as for completions by Pell Grant recipients, age 25 or over, and/or who are African American, Hispanic/Latino, or Native American. The weights used are the product of extensive empirical analysis of extra costs, in 16 different categories, of STEM programs and the historically higher risk of non-completion by the targeted categories of students. The extra incentives allocated for STEM and for underrepresented students in both Pennsylvania's and Ohio's policies afforded this study the ability to explore campus strategies to retain such targeted student subgroups—a topic of growing interest for many states looking to design or redesign their performance funding formulas (Davies, 2014).

Sampling organizations and campuses

In both Pennsylvania and Ohio, we engaged in purposeful sampling (Merriam, 2009) by initiating recruitment (via email or telephone) of the state-level higher education organization that designed the performance funding policies. In Pennsylvania, we contacted the State System of Higher Education office and requested to interview individuals directly involved with the funding formula. Recruitment also consisted of opportunistic or snowball sampling, where participants suggested additional individuals to contact, which was useful for finding relevant and influential cases—that is, salient individuals who should be included in the study because they are actively connected to the funding formula (Miles, Huberman, & Saldana, 2014).

To identify institutions within the two focal states, we incorporated a maximum variation sampling strategy (Miles et al., 2014). First, we sought variation in institutional missions and student demographics served. All PASSHE universities have a primary teaching mission, so within the system we considered campuses that served a

comparatively high proportion of low-income students, as well as those with more affluent populations. Additional sampling criteria required one selected campus to have chosen to be funded in part by the optional STEM performance funding metric, and one campus that, according to PASSHE staff, implemented notably innovative ideas to bolster student retention and completion. Discussions with State System senior staff led to recruitment of five potential campuses to study and, ultimately, two campuses were selected based on the sampling criteria described and campuses' openness to participation.

In Ohio, we contacted the Ohio Department of Higher Education (formerly the Board of Regents), which was charged by the governor to oversee the performance funding policy, in order to recruit several staff participants holding multiple roles (e.g., legislative relations, finance, data analysis, and institutional relations). We also recruited policymakers at the Inter-University Council, an organization that represents the interests of all four-year universities before state agencies and meets regularly with university leadership. As in Pennsylvania, we considered Ohio universities with a range of institutional missions and student demographics served.³ To maintain comparability with the teaching-oriented missions of the Pennsylvania State System universities, we contacted master's comprehensive universities with a teaching-oriented mission as well as access institutions—a group of designated Ohio institutions with a mission to serve underrepresented students and minimize their barriers to entry. Ultimately, four institutions were included in this study: a master's comprehensive university in Ohio with moderate research activity, a master's comprehensive college in Ohio with an access mission, and two master's comprehensive colleges in Pennsylvania.

Sampling participants within campuses

Once campuses agreed to participate, we purposefully sampled individuals in three main professional role categories: 1) high-level administrators (presidents, vice presidents, provosts); 2) mid-level administrators (associate and assistant vice presidents, directors of institutional research, deans); and 3) faculty and staff (department

3. This study was part of a larger research project in which we also interviewed individuals at an Ohio research-intensive university in order to cover a wide range of institutional missions. However, ultimately the present study relied on two selected universities in Ohio, one with both a teaching and research focus and one with an access mission. We excluded the research-intensive university from the analysis here so as to better explore how institutions with relatively similar missions (primarily teaching) addressed retention of underrepresented students across the two states.

chairs, faculty members, and staff members such as academic advisors, financial aid counselors and data analysts). Differentiation among roles and leadership levels was informed by this study's conceptual framework regarding principal-agent relationships *within* the institution.⁴

In the administration category, we recruited presidents, provosts, and vice presidents or directors of units representing: budgeting and finance, enrollment planning and recruitment, student success, student affairs, multicultural student success, and institutional research. Within the faculty category, we recruited faculty known to be involved with performance funding, for example, those who served on pertinent committees such as a student outcomes evaluation committee. Moreover, faculty may hold different perspectives depending on their discipline, and thus one group of faculty from the social sciences and practice-oriented fields (e.g., political science, public affairs, education) was recruited, while a second group was strategically recruited from STEM fields to uncover

specific departmental strategies in response to the two states' STEM performance metrics. The staff members recruited included advisors working directly with students in financial aid, academic advising, or in data analysis within colleges, schools, or departments. After initiating contact, we relied to some extent on convenience sampling based on participants' availability. This initial recruitment subsequently led to the use of network or snowball sampling. We asked participants, prior to arriving on campus and during interviews, to suggest additional key individuals who could best describe campus implementation of performance funding—this study's phenomenon of interest (Merriam, 2009; Miles et al., 2014).

In total, we interviewed 19 participants in Pennsylvania and 28 in Ohio, for a total of 47 participants (see Table 1). Participants in both states consisted of state policymakers and individuals occupying the three main professional campus role categories, across four campuses with slightly different institutional missions.⁵

Table 1. Participants by state, campus, and role

Pennsylvania		
Policymaker/Higher Ed agency	5	
	PA campus 1	PA campus 2
High-level administrator	4	3
Mid-level administrator	4	2
Dept chair, faculty staff	0	1
Subtotal by campus	8	6
Ohio		
Policymaker/Higher Ed agency	9	
	OH campus 1	OH campus 2
High-level administrator	1	2
Mid-level administrator	5	3
Dept chair, faculty staff	6	2
Subtotal by campus	12	7
Both states		
All Pennsylvania participants	19	
All Ohio participants	28	
Total participants	47	

- As described in the conceptual framework, on the one hand presidents and senior leaders hold knowledge on institutional-level responsiveness to state performance funding (as the agent) and interface with external policymakers (their principals). On the other hand, these same individuals act as principals within the campus and can also discuss how they seek to align the interests of their employees with the institution's broader goals.
- In Pennsylvania, it was especially challenging to recruit faculty and staff members for this study in part because of issues linked to collective bargaining, which we describe as a finding in the Results section. Individuals in role category 3 (department chairs, faculty, and staff) were not available to be recruited at all from PA Campus 1, and we were able to recruit only one faculty respondent at PA Campus 2.

Data collection and interviews

Consistent with previous studies of performance funding policy implementation, we employed semi-structured interviews to explore the research questions (Dougherty et al., 2014). Interviews are especially useful when participant behavior is not directly observable, and can reveal participants' viewpoints and actions. In particular, semi-structured interviews are valuable when "specific information is desired from all the respondents," yet multiple perspectives are also essential (Merriam, 2009, p. 90).

Driven by the study's research questions, we drafted interview protocols to cover fundamental topics and to ensure that procedures (though not necessarily all questions or topics) were consistent across participants (Patton, 2003). It was important to pose questions on the topics from multiple angles to, first, increase the likelihood of data saturation wherein recurring themes emerge within and across interviews, and, second, to create opportunities for triangulation of perspectives within each interview and across interviews (Merriam, 2009). Sample interview protocols are presented in the Appendix.

Data collection took place in two phases, with the first fieldwork trip to Ohio (by both authors) in September 2015, and the second (by Li) to Pennsylvania and an additional site in Ohio in January 2016. Each trip covered different organizations and institutions in the two states. The majority of interviews were conducted with the interviewer(s) speaking to a single respondent. In a few instances, more than one participant was interviewed at a time, when participants requested such a setup (e.g., a participant in a new role who included another participant to discuss continuity of the policy, or more than one participant in the same organization performing related functions). Interviews ranged from 30 minutes for a few individual interviews to 90 minutes for group interviews, with most lasting 60 to 75 minutes. Notes were taken throughout all interviews and the interviews were audiotaped with the participants' permission and later transcribed as the primary source of raw data.⁶

Data analysis

Conducting the interviews in person gave us the awareness and context necessary to begin data analysis by selecting salient interviewees who discussed topics most relevant to this study's research questions, e.g., campus responses to the performance funding policy redesign (Miles et al., 2014). We thus began the data analysis phase by first selecting a total of 10 salient interviews of both policymakers and campus participants in the two states. This subset of interviews consisted of campus participants in the three professional role categories from institutions with different missions, in order to extract relevant information that was later extended to the analysis of the larger set of interviews. In the next step, we conducted an open coding of the transcripts. An open code is supported by at least one unit of data, defined as "any meaningful (or potentially meaningful) segment" of text (Merriam, 2009, p. 176). Each unit must "reveal information relevant to the study and stimulate the reader to think beyond that particular bit of information" (Lincoln & Guba, 1985, p. 345).

During this phase, we read through each transcript in the selected 10 interviews, cross-referenced with the interview notes, and identified interesting or thought-provoking segments of text, phrases, and concepts. This meant creating a list of informal codes, keeping in mind the study's theoretical framework and research questions. We demonstrate an example of the open coding process with a quote from a policymaker:

"If the idea of this [performance funding] is not only to see metric increases as a measure of success, but more importantly, change the behavior behind the metric to make sure that you're seeing more successful metrics at the end, what have you really accomplished? And so as I started to work on [performance funding] here [in Pennsylvania], and still believe there has to be enough invested in it to get people's attention and then theoretically help incentivize them to change their behavior in positive ways to ultimately increase metric success."

6. Two participants requested no audiotaping but allowed note taking and inclusion of their interviews in the study. A few of the audiotaped participants requested short segments of their interviews to be off the record, and thus these discussions were excluded from the analysis.

Here, we initially coded “policy design,” “incentives,” “changing behavior,” and “what defines effectiveness?” In the next example, a college president stated:

“It’s very much like a number of performance indicators [metrics], you have to put in place the structure of the mechanism, the planning and so forth before you can actually achieve the performance outcome [improved student retention and completion]. And that’s another reason why performance indicators, to be effective, need to be consistent over a reasonable amount of time. Because you have to prepare the campus to achieve the outcome.”

Here again we added the codes “policy design” and “incentives” as well as “what defines effectiveness?” We continued this process by comparing open codes from each interview to the previous interviews. After completing open coding of the 10 interviews, we arrived at a series of approximately 20 codes that were then utilized to construct categories.

The second phase consisted of analytical coding during which we constructed, named, and defined categories, creating a “primitive outline or classification system” (Merriam, 2009, p. 181). To generate meaning from the data, we compared and contrasted across participant interviews and clustered concepts to condense and distill the data (Miles et al., 2014). For example, the category entitled “policy revision and evolution” spanned across multiple interviews and “captured some recurring pattern that cuts across the data” (Merriam, 2009, p. 181). Creating

this classification system provided a solid structure to continue the analytical process of using transcripts and notes to code the full set of 47 interviews in Pennsylvania and Ohio. We grouped, ungrouped, and regrouped new and existing codes and ensured triangulation of categories, and verified that each category contained a series of codes (Gagnon, 2010; Patton, 2003).

The third and final step involved identifying patterns in the categories and asking how these patterns addressed the research questions of this study in order to form themes. Here we contextualized categories to form a coherent story of performance funding policy implementation. This step represented a shift from the primarily inductive to the primarily deductive phase of qualitative data analysis (Merriam, 2009), where “the researcher uses analytical constructs, or rules of inference, to move from the text to the answers to the research questions” (White & Marsh, 2006, p. 27). The objective was to craft a “logical chain of evidence” where relationships among the categories formed themes (Miles et al., 2014, p. 290). Table 2 outlines the data analysis process by providing examples of how open codes formed categories, categories developed into themes, and themes were defined. Later, in the Findings section, we present the themes discovered, but first we acknowledge limitations of this study, as well as ways that qualitative validity was established.

Table 2. Examples of moving from open coding to theme development

Examples of open codes	Examples of categories	Theme	Description of theme
When there are changes to funding, there is apprehension; generally collaborative design process; fundamental flaw; performance metrics guide allocation of resources; tweaking the policy	<p>Mandatory metrics, optional metrics, and institution-specific metrics offer variety</p> <p>Flexibility in choosing institution's metrics is beneficial</p> <p>Better alignment of institutional and state goals</p>	Policy design and revision	Components of policy design and redesign that affect impacts or implementation
Intimately engaged with student success; faculty start to notice; faculty grumble; faculty work very hard; faculty champions; high-impact practices	<p>Administrator states that they cannot convince faculty to do anything</p> <p>Faculty champions can influence faculty's own behavior</p> <p>Faculty contribute service to the university that targets undergraduate retention</p>	Faculty incentives	Ways to incentivize faculty to try new activities aimed at boosting student retention and thus performance on metrics
Centralized data system; student records; performance report; resistance to data use; student transition points	<p>Intentional about handling student information</p> <p>Need to do a better job of collecting student data</p> <p>Focus on institutional-level decision making</p>	Data analytics	Using data, predictive analytics, or centralized systems to inform student retention strategies
Financially profitable; financial health; space utilization; making payroll; paying dividends; getting reimbursed; start-up costs; high education is a business	<p>Playing a game of jackpot or powerball in the performance funding formula</p> <p>Expanding campus facilities (e.g. dorms, recreation center) is paying dividends</p> <p>Increase enrollment to make up a deficit from the state</p>	Business of higher education	Participant approaches policy or institutional strategies by focusing on finances and a bottom line

Limitations

A limitation of this study was potential self-selection in the sampling process. Because interviewees volunteered to participate, there is potential bias based on interviewees' willingness to converse with researchers about performance funding. That is, interviewees who have less knowledge of or interest in performance funding were probably less inclined to participate, and thus the interviews analyzed may characterize perspectives of those with comparably greater responsiveness (in one direction or another) to performance funding. A second limitation is the study's focus on two states. There are large variations in performance funding policy designs across states, and this study's findings about Pennsylvania and Ohio are not strictly generalizable or intended to represent the nuances of policy implementation in other states. Rather, the purpose of this study is to offer an in-depth look at policy redesign and campus implementation of PF 2.0 approaches at several primarily teaching-oriented institutions in Pennsylvania and Ohio, both long-standing and prominent states in the performance funding landscape. Although valuable contributions along this line have been made recently by Dougherty and colleagues (Dougherty and Reddy, 2013; Dougherty et al, 2014; Dougherty and Natow, 2015), future research would be desirable on the experiences of performance funding in other states.

Trustworthiness, reliability, and qualitative validity

We employed a number of strategies to enhance trustworthiness, reliability, and qualitative validity—to ensure credibility that the data informed the themes presented in the findings (Merriam, 2009). First, throughout each interview, we paraphrased responses and summarized interview topics to seek to ensure that participant comments were interpreted as they intended. Second, we allocated our resources so that both investigators participated in conducting the first round of interviews in Ohio to ensure a common approach, and we independently coded segments of interviews to assess triangulation of findings. As a third step, after developing preliminary findings, we returned to select participants as a check to elicit feedback on whether our interpretations “rang true” to them (Merriam, 2009, p. 217).

Fourth, we engaged in peer review by sharing segments of transcripts with outside researchers with expertise in qualitative analysis and higher education, who also conducted an open coding of their own, and discovered results that both confirmed as well as challenged certain initial findings. By comparing our interpretations and enlisting their feedback during the analysis and writing stages, we considered rival explanations and ensured findings were plausible (Patton, 2003). Lastly, from the inception of this study to the writing stage, we drew on an earlier pilot study of campus responses to performance funding in Washington state (Li, 2016)—the impetus for the present study's research design. By comparing findings in Pennsylvania and Ohio to those from Washington, and assessing patterns in findings, we added another layer of plausibility and validity to this study. Therefore, through an extensive process of testing and confirming findings (Miles et al., 2014), we arrived at the following set of findings regarding the implementation of performance funding in our two focal states.

Findings

This study posed the following research questions:

1. According to state policymakers and college administrators, faculty, and staff, how is performance funding expected to work? What policy tools are being used?
2. Have state policymakers responded to institutional feedback? How are policies being redesigned, revised, or refined over time?
3. What is happening at the campus implementation phase? How have administrators, faculty, and staff responded to the policy?

We group our findings into four thematic areas regarding performance funding policy implementation in Pennsylvania and Ohio. The first two themes emerged solely from interviews in Pennsylvania; the last two emerged from interviews in both states. The first theme flows from an aspect of the design of Pennsylvania's funding formula that delays reporting of performance information and funds allocation. As a result, campus funding is unpredictable and the policy's capacity to incentivize campus behaviors is negatively affected. Second, strong faculty collective bargaining was unique to the Pennsylvania environment

and contextualized faculty incentives to help retain students. The third theme emerged out of interviews in both states, showing that campuses were pursuing strategies incorporating advanced data analytics to improve student retention, especially for underrepresented students. Finally, the fourth theme concerns policymakers' and high-level administrators' framing of performance funding as a policy congruent with what we term "the business of higher education." In presenting findings, pseudonyms and general professional titles are used to protect the identity of participants.

Theme 1: Funding unpredictability—the fatal flaw in policy design

The first broad theme we discovered in Pennsylvania was the presence of converging views on performance funding among the state policymakers and the campus participants interviewed, specifically on challenges in the budgeting process, as well as on the benefit of the 2010 policy revision that gave institutions opportunities to customize certain performance metrics. Both PASSHE system employees and campus officials were vocal about the flaws of the current performance funding policy, and in particular the unpredictability of funding. For example, an official at the State System office described:

"So they're [colleges] already a quarter of the way into their fiscal year before they know how much money they got from performance funding. So, if last year you got a million dollars, we tell you, plan on getting a million dollars this year, but it could be that this year they're going to get 500,000 or they're going to get two million, and they don't know. There's less swing like that occurring right now, although I can tell you this year, there's one university that lost a million dollars in performance funding this year. So that's a pretty big swing. So how do you budget for performance funding?"

High-level administrators such as presidents, vice presidents, and those working in finance and administration echoed this sentiment, as reflected in the following comment:

"The fundamental flaw in this performance thing is I just found out in January what my performance funding was for the fiscal year that started last July. That makes no sense to me whatsoever. They should

be telling me in January what my number's going to be for July. I don't even know what some of my indicators are that I'm being measured against until it's all over. So how do I manage those numbers when I don't even know what the number is?"

These two quotations represent the general sentiment of multiple interviewees in Pennsylvania who pinpointed the unpredictability of funding, due to a lag in reporting of performance results, as the fatal flaw of the performance funding setup. This six-month delay generated confusion and apprehension over how much a university should spend throughout the year for fear of receiving less money than budgeted, and being forced to scramble to accommodate the shortfall in a short time. Mid-level administrators who directly handled the university's budget expressed frustration and even dismay. Such a situation surely reduces incentive to plan, devise, and invest in new approaches to achieving performance goals when base funding is so uncertain, as many informants noted.

Moreover, the delay in connecting student outcomes directly to changes in the funding allocations creates ambiguity in whether campus actions in fact contributed to greater performance. Institutions coped with this policy design flaw by enlisting their institutional research and budgeting offices to try to better predict potential funding based on current and prior year's performance numbers. Yet, despite criticisms from campuses and recognition of the policy design flaw by several PASSHE employees, there were no apparent plans for providing a more stable or predictable budgeting process.

Policy revision: The door opens for future opportunities

On the other hand, interviewees also recognized a positive feature of the performance funding policy design in Pennsylvania. This feature resulted from the 2010 revision that provided institutions the opportunity to choose from a set of optional metrics and to propose metrics aligned with their strategic plans (in addition to mandatory metrics). Interviewees from PASSHE were particularly enthusiastic about this policy revision, an enthusiasm echoed by numerous high-level and mid-level campus administrators, as the emphasis on institutional strategic planning was repeatedly mentioned. Both the state and the campuses perceived that the performance funding policy had undergone a necessary and welcome revision that allowed customization that bolstered stakeholder buy-in, and enhanced future continuity with the diverse campus strategic

plans. One high-level administrator applauded the optional metrics and university-designed metrics for the following reason:

“Well, I think to continue that flexibility and setting the performance metrics is very important to the institutions because we are different. We all operate in a little bit different context, even though our mission is somewhat similar.”

The enthusiasm shared by institutions about the policy revision may enhance future sustainability of performance funding in Pennsylvania. The alignment of interests between the state (principal) and the campuses (agent) suggested that the funding formula was being improved, revised, and redesigned with institutional feedback (and, indirectly, agent support) in mind. While some tension existed between PASSHE and institutions in designing details of institution-specific metrics, most participants held positive outlooks on the design changes. A quote from an interviewee at the PASSHE office summarizes this theme on policy revision:

“We get into some of these little individual conversations about individual metrics and how they’re counted. Of course everybody wants the money, so they’ll always try to work a metric to their advantage, and claim foul that the sun got in my eyes [when their performance in the formula was lower than expected]. But largely, not only is it a solid process here [at PASSHE institutions], the people who oversee it and make it work are solid in their focus on it. And generally speaking, [the campuses] seem to be very interested in the changes we’re talking about making to it [the policy design].”

Theme 2: Faculty incentives in an environment of collective bargaining

The next theme we discovered centers on faculty incentives to retain and engage undergraduates, which was a key pattern of within-campus policy implementation of performance funding in Pennsylvania. Labor is powerful in Pennsylvania, where collective bargaining arrangements for salary, benefits, and other contractual obligations

limit administrators’ flexibility.⁷ All 14 campuses in the PASSHE system are part of a single faculty pay schedule negotiated by their union. From new assistant professors to full professors, salary schedules for each rank must be consistent across disciplines, meaning at least in theory that assistant professors in English earn salaries comparable to assistant professors in engineering.

In Pennsylvania, where state appropriations have remained flat for several years following a sizable reduction in the wake of the Great Recession, and institutions now generate a higher-than-ever proportion of their revenues through tuition, several interviewees at the state system hinted at a desire to “phase out” or encourage retirement of senior faculty who they thought were too comfortable in their positions to respond to changing fiscal climates that demanded greater effort regarding student retention. Moreover, some high-level administrators wanted to shift resources for faculty salaries in academic programs experiencing declining student demand to new faculty salaries in programs of increasing student interest and greater institutional priority, e.g., engineering.⁸ However, according to interviewees, strong unions caused the state system and institutions to encounter limited flexibility in making such decisions.

Within the broader context of budgetary constraints, institutions described ways to incentivize existing faculty despite perceived collective bargaining restrictions on hiring new faculty to adjust to changing student demand. We heard that department chairs and deans tasked faculty to pursue a wealth of activities in response to performance funding criteria. These activities were aimed at improving student persistence overall, increasing the number of STEM degrees awarded, and creating or diffusing “high impact practices”—a university-specific performance metric. High impact practices are those believed to increase student engagement, retention and/or graduation, and include study abroad, internships, and undergraduate research as well as increased use of technology in teaching. Both Pennsylvania institutions studied had selected high impact practices as an optional performance metric. According to campus interviewees in all three professional role categories,

7. As mentioned, we were unable to talk to many faculty in Pennsylvania, so these perspectives may be somewhat one-sided.

8. From another perspective, because English professors are normally less expensive to employ than engineering professors, as long as student demand permits, universities could use tuition dollars from programs with lower costs of delivery to subsidize engineering, if they so chose. At a university where this usual pay difference is not present, such as in Pennsylvania, the temptation to shift resources explicitly to STEM as other faculty retire will be higher. Those universities still would face challenges in recruiting and retaining faculty in STEM fields, however.

administrators charged faculty to experiment with new teaching practices expected to promote student retention (e.g., incorporating more technology in the classroom) and outside-the-classroom programming (e.g., undergraduate research). To illustrate, a Dean of Science and Engineering, stated:

“And one of those high-impact practices...is going to be undergraduate research. That, to me, within our college, that, to me, is probably the most important aspect that I think that we can do.”

Administrators and faculty employed creative ideas to stimulate and cultivate existing faculty expertise. One institution designed an integrative STEM minor composed of courses already being taught. A female engineering faculty member described her efforts:

“And I recently became more engaged in the whole movement with the STEM education. So I’m leading the effort on campus for a new minor for early childhood ed majors in integrative STEM, so it just got approved last year [by the department and state system], and now I advise all of those minors.”

According to interviewees at the Pennsylvania institutions, the optional and university-specific metrics in the performance funding formula effectively directed attention to STEM education and generated conversations about high impact practices. More significantly, the Pennsylvania State System’s 2010 policy revision gave high- and mid-level administrators (acting as both principals and agents of the state system) an effective tool to place added pressure on faculty (agents) to align within-departmental activities with both institution-level strategic goals and the state’s goals.

Yet, administrators interviewed also agreed that incentivizing faculty was a challenge. Administrators recognized that faculty members were overburdened and faced time constraints. For instance, one mid-level administrator characterized this burden as *“people have limited bandwidth”*—that is, faculty have limited time, resources, and energy to excel in all three required areas of teaching, research and service, much less to respond to additional demands from high-level administrators. From the interviewees’ perspective at one Pennsylvania institution, though, providing small incentives in an environment of limited resources helped motivate faculty. Specifically, the president and provost at this campus prioritized expansion

of online and hybrid courses (which utilize a combination of online and in-class instruction) to accommodate student schedules so as to support timely degree completion, and, second, to keep pace with students’ preferences for technology usage.

A dean of Arts and Sciences who reported to the provost, engaged with faculty in her departments and presented recommendations based on scholarly research, which suggested that effective use of technology in instruction enhances student learning. She created a seed grant program for faculty interested in crafting online or hybrid courses—an example of an internal campus policy tool to facilitate implementation of performance funding goals. Faculty applied for the seed grant, received a stipend to develop their course, and a stipend after teaching it and submitting a written report about it. According to the dean:

“And then what happened was I got, actually, a large number of more senior faculty, which is a bit surprising. The junior faculty aren’t afraid of technology. They grew up with it. They’re, like, of course I’ll do that. You don’t have to pay me extra... The senior faculty...it’s a bigger learning curve, and they’re not necessarily sold on the idea. So the key was getting senior faculty who are well respected here to try it, find out that it’s useful to students, and then show everybody else the way. And those are your peer changers. They change the culture.”

As illustrated, by offering a system of rewards at the faculty level as well as cultivating a culture of support amongst junior and senior faculty alike, this dean contributed to the institution’s accomplishment of a strategic goal to deliver more online and hybrid courses—consistent with the performance metric. Ultimately, the dean’s seed grants incentivized even “less technologically advanced” senior faculty to undertake the president’s and provost’s goals, effectively applying what Stone (2012) refers to as the policy tool of internal financial incentives.

Theme 3: Policy implementation via data analytics

While the previous two themes about policy design flaws and collective bargaining emerged solely from Pennsylvania, participants at all four focal institutions in Pennsylvania and Ohio described using advanced data analytics as one approach to implementing performance funding. Specifically, these institutions incorporated (or strived to incorporate) improved software systems and data analytics to better track

students' academic progress and identify ways to increase it. This particular finding was informed by interviews of faculty, staff, and mid-level administrators who had frequent interactions with students. Data analytics helps institutions to identify critical points when students are likely to drop out (e.g., between first and second semester, or after failing a course) in efforts to proactively reach out to individuals who might benefit from intervention. Interviewees echoed a common thread—performance funding drew greater attention to student retention and completion, particularly for racial and ethnic minorities. Both the Pennsylvania and Ohio funding formulas have designated metrics for underrepresented student completion. As mentioned earlier, the Pennsylvania formula defines underrepresented students as African American and Hispanic/Latino, while Ohio's formula includes Native American students as well. Both states emphasize Pell-grant recipients, and Ohio also allocates extra funding for completions by adult students (age 25 and older).

In alignment with state goals related to underrepresented student retention, one institution in Ohio hired a new professional employee⁹ in institutional research to implement a centralized data system and conduct advanced predictive analytics on student progression within and through courses based in part on student characteristics. While still at an early implementation stage when we visited, the institutional research office designated course faculty and “student success” staff (e.g., academic advisors and financial aid counselors) as target data providers and users. The new specialist explained that the data system had three key components. The first is using data on student characteristics (e.g., high school GPA, race) to predict an individual's likelihood of passing specific courses and being retained in school. The second component is a faculty alert system that tells faculty which students in their courses are at greater risk of failing. The third was faculty input to the data system about issues such as:

“Are you worried about the student's attendance? Are you worried about their low grades? Do you have any social/personal concerns with the student or the student's behavior?”

Once faculty submitted this information into the data system, student success staff would contact students at risk of withdrawing from or failing the class in order to provide extra support. This particular university in Ohio had ambitious plans to implement the centralized data analytics system, an impetus for the newly created position. Yet, it remains to be seen how successful the institution will be in convincing faculty to participate, and how faculty will be incentivized to provide data input on each student they teach.

Similarly, one of our Pennsylvania institutions also strived to incorporate better data usage based on student characteristics. The new dean of a social sciences college described his desired approach to data usage and said that he expected some faculty resistance:

“First, I want to really dig into the data that are available to everyone, including department chairs, related to recruitment, persistence, graduation rate, all of it. And we can drill down to the department level. So I can show them the data and I can say, here's what your numbers look like. You have 200 kids in the program, five of them are students of color. Are you happy about that?...I know that historically there have been pockets of resistance to the use of data. [Faculty say,] I don't need to use data to know that I'm doing a good job in the classroom. That's the sort of a battle cry of that group.”

He expressed passion for recruiting and retaining underrepresented students and to enable his department chairs to pursue this goal, consistent with Pennsylvania's performance funding goals and the purpose of the underrepresented student metrics. Yet, despite acknowledging potential resistance, the dean presented no tangible plans on how to “really dig into the data” to inform within-college initiatives to retain students. Despite ambitious plans outlined by multiple high- and mid-level administrators, particularly deans and institutional researchers, interviewees at all four institutions in Ohio and Pennsylvania offered few concrete strategies to incorporate better data usage among faculty, who must play a key part in improving student outcomes.

9. This individual had expertise in predictive analytics and previously worked at a different institution in another state where she successfully implemented such a centralized data system.

Indeed, the faculty we interviewed in Ohio and Pennsylvania expressed that they had limited knowledge and time to add data analytics to their existing teaching and advising responsibilities. Instead, faculty often said they relied on their own experiences to support students at risk of failing a course. An engineering department chair at an Ohio access institution utilized within-department data on course passage rates, observations of student struggles, and her own experience as a former student to inform the design of a retention program. The department chair created a peer-mentoring program to connect lower-division students with upper-division students. Here is a segment of our conversation:

Participant: "...I have a call out [advertisement], right now in fact, for seniors who are willing or able, have the time, to [mentor in course X]. Then I give that list to the faculty member who's teaching it, and then they pick one or two [students]."

Researcher: "Did these peer mentors get paid or compensated?"

Participant: "Absolutely. We have decided that this is really important for retention and for success, and we actually pay for it out of our course fees. So the students, they can say, why do I have these course fees?...Well, here's why. Those course fees are being used to help you succeed... There's a lot of studies— I don't want to emphasize just the females, because the females are so low in numbers in our department. But there's lots of studies that say this type of peer interaction is highly conducive to retention for females, much more even than males, statistically."

The participant continued by describing her own experience as a female studying engineering in a male-dominated field, challenges she had faced, and faculty and peer mentors who contributed to her success. In short, university-wide centralized data analytics did not prompt this individual's development of the peer mentor program. Rather, she was informed by within-departmental data on course passage rates, her personal experiences, and a passion for student success—all of which were not directly motivated by the Ohio performance funding policy. High-level administrators interviewed applauded this department chair for her efforts,

especially since these efforts aligned with the extra funding provided to the institution for course and degree completions in STEM.

Along with faculty, staff members interviewed also directly interacted with students to connect them with campus support services and, ultimately, to boost retention and graduation rates. One university in Ohio responded to performance funding, as well as the university's strategic goals, by offering targeted students more complete financial aid packages, consisting of both need- and merit-based aid. The first goal was to recruit "better students" (who would be more likely to persist and graduate), which the campus determined using entering high school GPA's and ACT scores. In addition to recruiting more academically prepared students, the university also tracked existing students to identify those at risk of dropping out. A staff member who worked in financial aid summarized this strategic process (also corroborated by triangulation with a mid-level administrator's interview):

"[If the enrolled student is] not up to par with their GPA for financial aid and academic progress, and they're not completing their courses, or one or the other—we have a partnership with our [university student success center] and their staff advisors where we will allow a student to receive their financial aid for one semester during that probationary period... As long as the student agrees to work with an advisor through the center who will help them and monitor their academic progress throughout the semester. They will get them tutoring, they will talk with them about how their classes are going, they will have them sit in on study groups, etc."

This example represents a strategy that campus interviewees in both Pennsylvania and Ohio discussed—that is, "intrusive" advising, a well-known retention strategy to connect a student with academic and support services when the student exhibits potential signs of dropping out. From the policymakers' perspective, several interviewees at the Pennsylvania State System and the Ohio Department of Higher Education lauded the ongoing work of some institutions in their systems for using data analytics and intrusive advising to accomplish performance funding retention goals.

Theme 4: The business of higher education

According to interviews of state policymakers and campus officials in Pennsylvania and Ohio, performance funding resulted from the need for public higher education to accommodate changing fiscal conditions, and a more prominent policy emphasis on college completion. We grouped their perspectives on these pressures into the thematic area we call *the business of higher education*, reflecting that, to some extent, institutions approached students as customers, and engaged in strategic planning from a fiscal standpoint with an eye on the bottom line. As institutions in both our focal states (and elsewhere) have received less state funding as a proportion of total funding, they have increasingly relied on tuition dollars, student fees, and philanthropy. Institutions also appear to be more focused on revenues generated from auxiliary enterprises (e.g., self-sustaining campus services such as dorms and parking), to ensure that these are fully utilized, self-supporting financially, and, to the extent possible, supporting student recruitment and retention.

Perceptions about the business of higher education varied according to the role of the interviewee. Policymakers commended performance funding as the way to signal to campuses the importance of delivering results and balancing budgets. Some high-level administrators portrayed students as consumers who paid for and expected delivery of a quality product or service, and they recognized the need to pursue alternative sources of revenue given constraints on tuition charges and state support. In contrast, mid-level administrators, faculty, and staff appeared to hold a more cynical view that performance funding perpetuated the notion of higher education as a business enterprise, to the detriment of focusing on serving the student.

When describing performance funding, policymakers and high-level administrators used terms such as “paying dividends,” “generating higher profit margins,” and “deploying funds elsewhere.” A vice president of student affairs at a Pennsylvania campus described his institution’s private foundation and a building project to construct new dorms as “enterprises.” Enterprises were expected to not only cover their own operational costs, as a nonprofit organization would, but to generate new funds as well.

“I think the ultimate goal was also that as some of those nonprofits turned a profit, that some of the proceeds would then go back to the university to help fund their budgets. A traditional model had always been: plow your profits back into the enterprise to keep the cost as low as possible for the next students. It’s a little bit different today.”

This university administrator recognized that “profits” earned by the institution could not all be funneled back to the institution in ways that kept student costs down, but rather must be carefully husbanded to help the institution prepare for potential future funding losses resulting from lower state funding.

Moreover, a president of a Pennsylvania institution stated:

“So we have an economy of scale that allows us to generate a higher profit margin with additional student enrollees [i.e., marginal costs below marginal revenues] than most of the other institutions in the system. So our enrollment growth has helped make up the deficit between funds that we receive from the state and tuition, and our costs, our mandatory cost increases.”

Similar to other high-level administrators interviewed, the administrators quoted above framed various campus strategies as needing to meet bottom lines, balance the budget, limit expenditures, and collect more revenues. These high-level administrators pinpointed students as a major source of revenue—a reality that would continue into the future.

Policymakers interviewed also framed campus strategies as following the money tied to performance funding. Ohio’s funding formula allocates extra funding for students who are on Pell-grants, age 25 or older, and/or who are underrepresented racial and ethnic minorities. One policymaker in Ohio openly admitted that if institutions were to study the funding formula, they could choose to enroll the “most financially profitable student” mix to complete courses and thus collect extra funding.

In summary, policymakers and campus leaders recognized that in order to survive in an environment of increased oversight and decreasing or stagnant public funding, universities must adjust by finding alternative sources of revenue, treating student tuition and fees as strategic revenue generation, and engaging in recruitment and enrollment strategies that may result in extra funds generated via the performance funding formula. One high-level administrator bluntly stated:

“And I hate to tell people, but higher education is a business. We’re a \$120 million business on the E&G [Education and General funds] side, and another \$40 million on the auxiliary. So it’s \$160 million it takes to run this operation.”

On the other hand, there was some evidence that faculty members and staff were more critical of the underlying logic of performance funding as “paying for degrees” and high-level administrators’ perception of students as “cash cows.” In Ohio, a faculty member in education stated that, to compete for funds in the performance funding pot of money (which is basically fixed), there had to be “winners and losers” among the institutions. Because of the competition for performance funds, faculty members and staff perceived that high-level administrators were tempted to make decisions influenced by the funding allocations, to the potential detriment of the students’ best interests. How much this skepticism may influence their willingness to cooperate in seeking to improve student retention and graduation rates is less clear, however, since these latter goals also square fairly well with most academics’ values.

Discussion

In this study, we highlight the perspectives of state policymakers and college administrators, faculty, and staff regarding the campus implementation phase of PF 2.0 policies at four institutions in two focal states. With respect to the first research question of how performance funding is expected to work, we find that delayed performance reporting and funding allocations in Pennsylvania’s approach created challenges for institutions to budget efficiently with performance funds. Yet, findings also pinpoint increased alignment of some key policymaker and campus goals via the institution-designed, institution-specific performance metrics.

Regarding the second research question about policymaker responses to institutional feedback, policymakers in Pennsylvania did in fact engage in redesign and refinement of the funding formula, which was well-received by the campuses.¹⁰ In response to the third research question as to what specifically is happening at the campus implementation phase, we find that campus interviewees in Pennsylvania and Ohio responded to performance funding by incorporating predictive analytics and centralized data systems to better track student progress. These actions are particularly motivated by emphasis on underrepresented student retention in both states’ funding formulas. Additionally, because of Pennsylvania’s collective bargaining environment, the need for more creative internal incentives to motivate faculty to pursue more institution-level strategic goals appears to be higher in Pennsylvania than in Ohio. Finally, the performance funding mechanism that incentivizes higher retention and completion rates, within the context of constrained funding overall, contributes to evolving perspectives consistent with a business-oriented approach to higher education, particularly among policymakers and high-level administrators. There is some unhappiness and tension over this development at the faculty level.

Overall, findings from this study suggest that four-year institutions in Pennsylvania and Ohio, despite facing challenges of greater accountability oversight and lower state funding as a proportion of all funding, are indeed responsive to performance funding policies. Consistent with the principal-agent framework, the relationship is a two-way street because policymakers are somewhat receptive to institutional feedback and attuned to the interests of institutions, as they need their support in concerted efforts to increase undergraduate completion. In the same principal-agent vein, performance funding is especially powerful as a vehicle for administrators to communicate with faculty and staff, via consistent policy signals, the urgent need to focus on completion numbers since budgets are dependent on such metrics.

In light of these findings, we briefly consider connections to the existing literature on performance funding policy implementation. This study finds that, similar to research conducted by Dougherty et al. (2014b), the financial-incentives component of performance funding policies

10. While not a focus of this study’s analysis, the policy redesign process was evident in Ohio as well, to a lesser degree. The performance-funding model there has evolved over a number of years and several gubernatorial administrations.

are key policy tools incorporated by state and system-level policymakers to influence institutions' behaviors. This study expands on this financial incentive tool and indicates that, within campuses, high- and mid-level administrators apply similar incentives to motivate faculty in Pennsylvania. The need for inducements to ensure more energetic assistance from faculty is an example of principal-agent relationships within campuses; that is, because institutional performance is measured at the campus level, administrators must cultivate a shared sense of responsibility among faculty and staff members to improve on overall performance metrics. Consistent with earlier findings from Indiana, Ohio, and Tennessee (Dougherty et al., 2014), faculty in this study of Pennsylvania and Ohio also were charged with using centralized data systems that, when fully implemented, send early warning alerts about students at risk of dropping out and are designed to initiate responsive actions by both faculty and staff.

Yet, questions remain around how directly the performance funding policy motivates within-department activities among faculty, especially faculty who are more resistant to change. Numerous participants noted that faculty members are overburdened, similar to findings from Indiana and Tennessee on the increased workload placed on faculty to pursue data-oriented activities related to student retention (Lahr et al., 2014). This study also emphasizes that, according to administrators, faculty can be especially resistant to oversight mechanisms driven by performance funding, which supports findings on two-year colleges in Washington state (Li, 2016). Additional research to explore the effects of different incentives for faculty and staff, and to further assess the connection between a macro-level external-funding policy and the micro-level, departmental activities necessary to make it work would help to shed light on how performance funding could be most effective in achieving policy goals.

Implications for policy and practice

This study's finding regarding campus use of predictive analytics suggests that centralized data systems may take on a bigger role in the future, particularly to improve retention efforts for underrepresented students (i.e., racial and ethnic minorities, Pell-grant recipients, first generation, and adult learners). Enhancements in technology and institutional commitments to making data-driven decisions are aligned with two critical goals of performance funding. The first is to increase access and, at the same time,

ensure that institutions are not penalized for enrolling underrepresented students, who typically need more institutional resources to graduate. The second critical goal is to promote better data usage among campuses. Institutional researchers and policymakers may wish to collaboratively consider how centralized data systems may be better utilized to predict individual student performance and intervene where necessary. Ironically, performance-funding systems may do little to ensure that the institutions most in need of these systems have the resources to acquire them and the capacity to use them well.


This study contributes to the body of literature on performance funding policy impacts by highlighting the campus implementation phase in Pennsylvania, where little qualitative research has previously been conducted. Because of Pennsylvania's unique collective bargaining structure and low and stagnant levels of state funding, institutions struggle to meet their bottom lines as well as to reallocate resources. Future research could help to determine how and if the performance funding policy should be fine-tuned to account for these challenges. Additionally, the policy redesign effort made in Pennsylvania in 2010 and effective FY 2011 is particularly encouraging, as it helped to converge interests between the state and campuses. Perhaps other states can look to Pennsylvania as a model to allow for design of institution-specific metrics that can better match institutions' priorities and thus enhance their motivation to engage in performance funding efforts with enthusiasm.

Finally, the concept of applying private sector incentives to public higher education deserves more scholarly attention. As seen in this study of Pennsylvania and Ohio, institutions are increasingly pressured and motivated to consider bottom lines, revenue generation strategies, and strategic recruitment of students in pursuit of tuition dollars and state support. Future research could help to better understand the consequences—both positive and negative—of these business-like mindsets, which could affect the fundamental character and ongoing expansion of performance funding policies for public higher education.

References

- Bohren, O. (1998). The agent's ethics in the principal-agent model. *Journal of Business Ethics*, 17, 745–755.
- Braxton, J. M. (2008). Toward a scholarship of practice centered on college student retention. *New Directions for Teaching and Learning*, 115, 101–112. <http://doi.org/10.1002/tl.328>
- Burke, J. C. (2002). *Funding public colleges and universities for performance*. Albany, NY: Rockefeller Institute Press.
- Cavanaugh, J. C., & Garland, P. (2012). Performance funding in Pennsylvania. *Change*, 44(3), 34–39.
- Davies, L. (2014). *State “shared responsibility” policies for improved outcomes: Lessons learned*. Washington, DC: HCM Strategists. Retrieved from <http://hcmstrategists.com/wp-content/uploads/2014/04/HCM-State-Shared-Responsibility-RADD-2.0.pdf>
- DeLeon, P., & DeLeon, L. (2002). What ever happened to policy implementation? An alternative approach. *Journal of Public Administration Research and Theory*, 12(4), 467–492.
- Dougherty, K. J., Jones, S. M., Lahr, H., Natow, R. S., Pheatt, L., & Reddy, V. (2014). *Implementing performance funding in three leading states: Instruments, outcomes, obstacles, and unintended impacts* (CCRC Working Paper No. 74). New York, NY: Community College Research Center. Retrieved from <http://ccrc.tc.columbia.edu/Performance-Funding.html>
- Dougherty, K. J., & Natow, R. S. (2015). *The politics of performance funding for higher education: Origins, discontinuations, and transformations*. Baltimore, MD: Johns Hopkins University Press.
- Dougherty, K. J., & Reddy, V. (2013). Performance funding for higher education: What are the mechanisms? What are the impacts? *ASHE Higher Education Report*, 39(2).
- Gagnon, Y.-C. (2010). Analyzing data. In Y.-C. Gagnon (Ed.), *The case study as a research method* (pp. 71–82). Québec, Canada: Presses de l'Université du Québec.
- HCM Strategists. (2011). *Completion based funding in Ohio*. Washington, DC: HCM Strategists. Retrieved from http://strategylabs.luminafoundation.org/wp-content/uploads/2013/10/completion_based_funding_ohio_final-copy.pdf
- Hillman, N. W., Tandberg, D. A., & Fryar, A. H. (2015). Evaluating the impacts of “new” performance funding in higher education. *Educational Evaluation and Policy Analysis*, 37(4), 501–519. <http://doi.org/10.3102/0162373714560224>
- Hillman, N. W., Tandberg, D. A., & Gross, J. P. K. (2014). Performance funding in higher education: Do financial incentives impact college completions? *The Journal of Higher Education*, 85(6), 826–857. <http://doi.org/10.1353/jhe.2014.0031>
- Jenkins, D., Wachen, J., Moore, C., & Shulock, N. (2012). *Washington state student achievement initiative policy study: Final report*. Sacramento, CA: CCRC-IHELP. Retrieved from <http://ccrc.tc.columbia.edu/media/k2/attachments/student-achievement-initiative-final-report.pdf>
- Kivistö, J. (2008). An assessment of agency theory as a framework for the government–university relationship. *Journal of Higher Education Policy and Management*, 30(4), 339–350. <http://doi.org/10.1080/13600800802383018>
- Lahr, H., Pheatt, L., Dougherty, K. J., Jones, S. M., Natow, R. S., & Reddy, V. (2014). *Unintended impacts of performance funding on community colleges and universities in three states* (CCRC Working Paper No. 78). New York, NY: Community College Research Center. Retrieved from <http://ccrc.tc.columbia.edu/Performance-Funding.html>
- Lane, J. E. (2007). The spider web of oversight: An analysis of external oversight of higher education. *The Journal of Higher Education*, 78(6), 615–644. <http://doi.org/10.1353/jhe.2007.0038>
- Li, A. Y. (2014). Performance funding in the states: An increasingly ubiquitous public policy for higher education. *Higher Education in Review*, 11(Online), 1–29. Retrieved from <http://www.higheredinreview.org/article-index>

- Li, A. Y. (2016). The point of the point: Washington's Student Achievement Initiative through the looking glass of a community college. *Community College Journal of Research and Practice*, X(X), Online first. <http://doi.org/10.1080/10668926.2016.1179601>
- Li, A. Y., & Zumeta, W. (2015). State support for higher education. In J. Huisman, H. de Boer, D. D. Dill, & M. Souto-Otero (Eds.), *The Palgrave international handbook of higher education policy and governance* (pp. 463–482). London, UK: Palgrave/Macmillan.
- Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. Newbury Park, CA: Sage.
- Merriam, S. B. (2009). *Qualitative research: A guide to design and implementation*. San Francisco, CA: Jossey-Bass.
- Meyers, M., & Vorsanger, S. (2003). Street-level bureaucrats and the implementation of public policy. In B. Peters & J. Pierre (Eds.), *Handbook of Public Administration* (pp. 245–255). Thousand Oaks, CA: Sage Publications.
- Miles, M., Huberman, M., & Saldana, J. (2014). *Qualitative data analysis: A sourcebook of new methods* (3rd ed.). Thousand Oaks, CA: Sage.
- National Center for Education Statistics. (2015). National Center for Education Statistics Fast Facts. Retrieved December 28, 2015, from <https://nces.ed.gov/fastfacts/display.asp?id=40>
- National Conference of State Legislatures. (2016). Performance-based funding for higher education. Retrieved March 12, 2016, from <http://www.ncsl.org/research/education/performance-funding.aspx>
- Ohio Board of Regents. (2014). *This report responds to the legislative request with an overview of each sector's funding formula development process and the consideration of student factors and weights. Expected versus actual graduation rates are also reviewed. 25* (Memorandum). Columbus, OH: Ohio Board of Regents. Retrieved from https://www.ohiohighered.org/sites/ohiohighered.org/files/uploads/financial/ssi/SSI_Performance-Based-Funding-Evaluation-Report_Dec2014.pdf
- Pascarella, E. T., Seifert, T. A., & Whitt, E. J. (2008). Effective instruction and college student persistence: Some new evidence. *New Directions for Teaching and Learning*, 115, 55–70. <http://doi.org/10.1002/tl.325>
- Patton, M. Q. (2003). Qualitative interviewing. In M. Q. Patton (Ed.), *Qualitative research and evaluation methods* (3rd ed., pp. 339–384). Thousand Oaks, CA: Sage Publications.
- Pennsylvania State System of Higher Education. (2016). Pennsylvania's state system of higher education: About us. Retrieved April 28, 2016, from <http://www.passhe.edu/inside/Pages/about.aspx>
- Pheatt, L., Lahr, H., Dougherty, K. J., Jones, S. M., Natow, R. S., & Reddy, V. (2014). *Obstacles to the effective implementation of performance funding: A multistate cross-case analysis* (CCRC Working Paper No. 77). New York, NY: Community College Research Center. Retrieved from <http://ccrc.tc.columbia.edu/Performance-Funding.html>
- Reason, R. D. (2009). An examination of persistence research through the lens of a comprehensive conceptual framework. *Journal of College Student Development*, 50(6), 659–682. <http://doi.org/10.1353/csd.0.0098>
- Rutherford, A., & Rabovsky, T. M. (2014). Evaluating impacts of performance funding policies on student outcomes in higher education. *The ANNALS of the American Academy of Political and Social Science*, 655(1), 185–208. <http://doi.org/10.1177/0002716214541048>
- Sanford, T., & Hunter, J. (2011). Impact of performance-funding on retention and graduation rates. *Education Policy Analysis Archives*, 19(33), 1–30.
- Snyder, M. (2014). *Driving better outcomes: Typology and principles to inform outcomes-based funding models*. Washington, DC: HCM Strategists. Retrieved from <http://hcmstrategists.com/drivingoutcomes/wp-content/themes/hcm/pdf/DrivingOutcomes.pdf>
- Snyder, M., & Fox, B. (2016). *Driving better outcomes: Fiscal year 2016 state status and typology update*. Washington, DC: HCM Strategists. Retrieved from <http://hcmstrategists.com/drivingoutcomes/>

- 
- Stone, D. (2012). *Policy paradox: The art of political decision making*. New York, NY: Norton & Company, Inc.
- Tandberg, D. A., & Hillman, N. W. (2014). State higher education performance funding: Data, outcomes, and policy implications. *Journal of Education Finance*, 39(1), 222–243. <http://doi.org/10.1353/jef.2014.0007>
- Tandberg, D. A., Hillman, N. W., & Barakat, M. (2014). State higher education performance funding for community colleges: Diverse effects and policy implications. *Teacher's College Record*, 116(120307), 1–31.
- Tinto, V. (1998). Colleges as communities: Taking research on student persistence seriously. *The Review of Higher Education*, 21(2), 167–177.
- Weimer, D. L., & Vining, A. R. (2011). Limits to public intervention: Government failures. In *Policy analysis: Concepts and practice* (5th ed., pp. 156–190). Saddle River, NJ: Pearson Prentice-Hall.
- White, M. D., & Marsh, E. E. (2006). Content analysis: A flexible methodology. *Library Trends*, 55(1), 22–45. <http://doi.org/10.1353/lib.2006.0053>

Appendix A

Interview Protocol for Policymakers, Staff, and Agency Officials

Thank you for agreeing to participate in this interview. Today we would like to talk to you about the [XYZ] performance funding initiative aimed at improving student outcomes through financial incentives. (Go over informed consent if participant has any questions)

We would like to interview you because we think you may be knowledgeable about the policy. I would like to accurately capture our discussion. Would it be all right with you if I audio record this conversation? (See informed consent)

Background Questions

- What is your role at this state agency [or the legislature]?
- What are your responsibilities as they relate to performance funding (if any)?
- What do you know about the [XYZ] performance funding policy?

Policy Design and Goals

1. Why and how were the specific outcomes targeted by the performance funding policy chosen?
 - a. To what extent were higher education representatives / college leaders involved in this and other aspects of the policy's design?
 - b. Are there any signs that you can see of resistance to the policy or aspects of it from the institutions or groups within them?
2. Please explain how outcomes and improvements in them are [or will be] measured and describe any challenges you see with measurement.
3. What is the underlying “theory of action / change” behind the performance funding policy?
 - a. What is expected to happen at colleges to improve student outcomes?
 - b. How can you attribute any changes on outcomes to the performance funding policy, as opposed to other initiatives or forces at work?
4. To what extent does the state/agency care about *how* institutions get results as long as they get them?
5. What do you know about the specific funding formula?
 - How funding is calculated?*
 - For example, optional (college chosen) versus required metrics
 - Ask about STEM
 - Ask about traditionally underrepresented students
6. Do you think the details of the funding formula are well understood by colleges?
7. *Maybe: Do you have longitudinal, institution-specific data comparing say enrollments, selectivity (entering ACT scores, acceptance rates), and graduation?*

College Capacity

8. What resources have (or will) the state provide colleges to facilitate implementation of the policy (if any)?
9. Are data systems adequate for institutions to tell whether what they are doing to improve student outcomes is working?
10. Were any resources for training provided to college personnel? (This could include attending conferences or learning from other institutions)
11. Have institutions requested additional resources for personnel to address student outcomes (such as for retention specialists or counselors)?
12. Have institutions sought resources for research on how best to improve performance on the targeted student outcomes?

Implementation and Impact

13. How often do you check in with the institutions?
14. How much progress do you perceive in their taking of steps to improve performance on the targeted outcomes?
 - a. How even or uneven is progress across the institutions?
 - b. Any challenges faced that are specific to a particular type of institution?
15. What specific steps are the institutions taking?
16. What do you learn from the reports of student outcomes provided by institutions?
 - a. Have these reports led to any changes in the performance funding policy at the state level?
 - b. Do you see signs that results have modified what institutions are doing to implement the policy?
17. Do you or others at the state level explicitly compare institutions' performance or is each institution simply compared against its own past performance on the indicators?
18. What are your views about the sustainability of this policy over time?

Appendix B

Interview Protocol for University Administrators, Staff, and Faculty

Thank you for agreeing to participate in this interview. Today we would like to talk to you about the [XYZ] performance funding initiative aimed at improving student outcomes through financial incentives. (Go over informed consent if participant has any questions)

We would like to interview you because we think you may be knowledgeable about the policy. I would like to accurately capture our discussion. Would it be all right with you if I audio record this conversation? (see informed consent)

Background Questions

- What is your professional role at this college?
- What are your responsibilities as they relate to performance funding (if any)?

Knowledge and Perspectives

19. *What do you know about the [XYZ] performance funding policy?*
 - a. How is funding calculated?
 - b. What about optional versus required metrics?
20. *What are your reactions to and perspectives on the performance initiative?*
 - a. *Do you “buy into” the policy’s theory of action (i.e., using financial incentives to motivate improvement in student outcomes)?*
21. *How much do faculty / department chairs know about specific funding formula details, and do they even need to know?*

Institutional Capacity, Implementation, and Impact

22. Administrators: *Who on campus is seen as responsible for improving student performance outcomes?*
 - a. *Is there a person whose specific responsibility is oversight of campus response to the policy?*
 - b. *Do you have a campus-level coordinator who responds to state data requests about college performance?*
23. *Is the necessary data capacity available for relevant actors to know in a timely way whether what they are doing is working to improve outcomes?*
24. *What kind of training (if any) is/was provided, if any, to help improve performance on the targeted dimensions at your college?*
25. *Any steps that have been taken specifically to improve the targeted outcomes? (e.g., personnel additions, training, travel)*
26. *How are units below the institutional level specifically incentivized to improve outcomes? Is any data collected at the unit level?*
27. *What happens when a department/unit is performing poorly?*

28. What actions have been taken on this campus to improve student outcomes? What actions have you or your unit taken in support of the broader campus strategy?
- a. If Faculty:
- i. What actions have you taken through your teaching to improve student outcomes?
 - ii. Has your unit revised its curriculum or course requirements?
 - iii. Are there any changes in your expectations of students or grading criteria?
 - iv. Have you treated your advising role any differently as a result of the performance funding policy?
29. What can department chairs do and what are their strategies with respect to the funding formula's incentives?
30. *How do you measure the connection between institutional actions and student outcomes?*
- a. How do you know that what you are doing is successful?
31. Does the policy seem to be working as intended by the State?
32. Has the State system responded to any feedback from your institution?
33. *Are there any unanticipated outcomes of the policy?*

Concluding Remarks

1. Is there anything you would like to add?
2. Who else would you recommend I talk to?

Extra

3. If Yes in informed consent – May I follow up with you by phone or email if I need clarification on anything or have additional questions?
4. Would you like a copy of publications or reports from the study? How about a copy of the interview transcript?