

CHAPTER 4

CASE TEACHING AND INTELLECTUAL
PERFORMANCES IN PUBLIC
MANAGEMENT*Michael Barzelay and Fred Thompson*

Keywords: argument, argumentation, case (analysis, method, teaching), clinical (intelligence, judgment, skill), context factors, communication, design features, desirability, diagnosis, intellectual performances, intervention (designing the, active), logic (of appropriateness, of effect), practicality, practical reasoning, presumptive reasoning, reverse engineering, situation, workability, unpacking

Abstract: The educational process should enable students to engage in specific kinds of intellectual performance. We believe that many of the kinds of intellectual performances important to the practice of public management can best be taught via the case method. Nevertheless, we have reservations about the way cases are usually taught. In most instances, case teaching is deficient in developing students' understanding of the intellectual performances undertaken in case analysis and practice. Among the most significant limitations of case teaching is the relevant absence of explicit discussion of how public managers systematically combine conceptual material drawn from diverse disciplinary and professional bodies of thought. We show how case teaching can be upgraded to enhance its effectiveness in teaching students how to craft appropriate responses to administrative situations.

Using the conventional distinction between diagnosis and active intervention, we start with the patterns of practical inference involved in reaching a situational diagnosis, illustrating these patterns with commentary on a case study we researched together. We also suggest a format for characterizing such inference patterns. Finally, we turn to the reciprocal intellectual performance of designing active interventions. We conclude that discussion of public management literature of this sort should become a significant feature in the educational process.

INTRODUCTION

Virtually all academics in the field agree that public management is not done in the abstract but in complex and idiosyncratic situations. Grasping relevant particularities of a situation is thus considered an important intellectual performance in public management. Given this point of agreement, the convergence of public management academics on case method teaching is not surprising. Case method teaching requires that argumentation about public management not only remain relevant to the managerial work of crafting appropriate and effective responses to administrative situations, but also be consistent with the view that the adequacy of such responses depends on subtle properties of the situation at hand. Case method teaching is clearly suited to an educational process geared to such a situational perspective.

Planted in this common ground are a variety of similar deeply rooted arguments in favor of case method teaching. One is that instrumentally rational problem solving requires clinical intelligence (Mashaw 1983), which necessarily includes an element of skill (Schön 1983). Clinical skills must be built up through successive attempts to reason about particular what-to-do issues. A similar argument is that responding appropriately to administrative situations requires discernment and judgment (Chapman 2001; Thompson 1986). Like skill, judgment has a tacit component. Judgment requires practice with resolving particular cases in the light of official or public scrutiny. In Harvard Business School lore, the two thoughts—skill for instrumental rationality and judgment for appropriate action—are ambiguously combined in the standard justification for case method teaching: “because wisdom can not be told” (Cragg 1951).

While these overlapping justifications of the case method are highly persuasive, the typical practice is not so unassailable. By “typical” we mean the following: first, the lion’s share of classroom time is devoted to participative discussions of teaching case studies; second, a good class is considered one where participation is widespread and the discussion moves quickly; third, classroom discussion of non-case study reading material is incidental when it occurs at all; and fourth, assessed written work is limited to analyzing cases or designing solutions to problems faced by individuals depicted in the case study.

How these process design features operate in the educational process is influenced by process context factors, such as the ones that follow.¹ First, the institution housing the educational process is a professional school independent from the mainstream academic departments. Second, the degree program title is a professional qualification.

Third, students' prior academic work varies widely. Fourth, the modes of systematic inquiry taught in the students' methodology courses rarely include process theories or case methods. Finally, the broader curriculum rarely includes coursework that is explicitly concerned with practical reasoning and argumentation.

One weakness of this set of design features and context factors is that students rarely learn to describe the intellectual performances through which they craft plausibly appropriate and effective responses to administrative situations. Lacking such tools, they are also short-changed of means to engage with others in reflective argumentative exchange (Simons 2001) about the shape and content of an intervention. Such means include shared cognitive models of practical reasoning and communication (Gaskins 1992; Simons 2001; Walton 1994). Such means also include cognitive models of social mechanisms and processes (Hedstrom and Swedberg 1996; Tilly 2000) and a shared comprehension of the creative work of designing organizational interventions (Bardach 1998). Practiced use of such varied models will allow students to fully appreciate others' thoughtful responses to administrative situations and permit scrutiny of their own positions. Furthermore, if students leave the university without tools to retrospectively make sense of their intellectual performances, it will be difficult for them to mature into genuinely reflective practitioners (Schön 1983). The conclusion we reach is that part of the educational process in public management should include straightforward discussion of the intellectual performances involved in designing and improvising organizational interventions.

At the risk of a slight digression, we observe that our position is paralleled by the views of some academic specialists in policy analysis. For instance, Giandomenico Majone (1989) claims that policy analysts need to be conscious of their own craft-like intellectual performances, including the translation of data into information and the interpretation of information as evidence contained within a policy argument. William Dunn (1994) suggests that policy analysts should be aware of the patterns of reasoning leading to policy conclusions as well as of the styles of persuasive communication in which policy analysts engage.

Among the most significant limitations of the practice outlined above is the relative absence of explicit discussion of how public managers systematically combine conceptual material drawn from diverse disciplinary and professional bodies of thought. These bodies of thought include knowledge of governmental institutions; prescriptive discussions drawn from management disciplines; and normative theories of value, agency and responsibility. A hallmark of public management

practice is such intellectual bricolage. Combining ideas from differing fields of discussion in a meaningful way is not a trivial intellectual performance, as is evident in some of the most impressive contributions to the scholarly literature on administration and management and related topics (Allison 1971; Dahl and Lindblom 1953; Hood 1998; Moore 1995; Simon et al. 1950).

To pursue this line of inquiry further, we must describe and classify the intellectual performances required of public managers. First, public managers must provide reasonable answers to issues of organizational purpose and policy. Simons (2001) identifies several stock issues that policy proposals must meet: desirability, practicality, workability, freedom from greater evils and best available alternative. Second, public managers design and improvise organizational interventions. Through such efforts, executives seek to change organizations and thereby shape their accomplishments. An intervention typically involves interactive work, such as exercising influence over coordinate authorities inside and outside the organization, inculcating understanding and acceptance of novel lines of administrative argumentation, and promoting the learning through which organizations improve their routines and capabilities. The design and improvisation of interventions requires intellectual performances that are conceptually distinct from those involved in analyzing policy alternatives.

The literature on public management does not speak with one voice on the character of the intellectual performances undertaken to design and improvise organizational interventions. For instance, Mark H. Moore (1995) emphasizes the need to show that an intervention would exploit latent opportunities for the organization to create value. By contrast, Laurence Lynn (1996) emphasizes the need for a public manager to apply a theoretical understanding of behavioral mechanisms and processes to anticipate the causal effects of specific actions. Moore's account emphasizes the application of abstract, normative standards to messy factual circumstances, whereas Lynn's account emphasizes the selective application of descriptive theories of human behavior in organizational settings. Both characterizations have their appeal. In the end, however, we are inclined to believe that Moore's account bears primarily on diagnostic matters and Lynn's on the design and improvisation of interventions.

DIAGNOSIS AS ARGUMENT

In the case presented below, the protagonist—General George Babbitt, Commander of Air Force Materiel Command (AFMC)—diagnoses the

situation facing him as the incoming chief executive of this organization and as subsequently undertaking an active intervention to shape the institution's near-term and future accomplishments. Among other purposes, the case can be used to provide an explicit discussion of diagnosis as an intellectual performance.

Interpreted as an intellectual performance, diagnosis is an exercise in presumptive reasoning (Walton 1994). Presumptive reasoning involves drawing plausible inferences about matters of belief and action from premises that are considered reliable or otherwise adequate for the purposes at hand. Working out plausible inferences about what-to-do issues concerning a particular organization at a given time is undoubtedly an intellectual performance. Any particular exercise in diagnosis can be described in some detail and thereby subjected to critique and improvement.

How a diagnostic argument is appraised will naturally depend on standing volitions about the process of problem solving.² A common idea is that a diagnostic argument should pinpoint the potentially removable constraints on the performance of clearly defined processes. This conception of diagnosis is entrenched in the systems-oriented literature on operations management and is typically referred to as the theory of constraints (Goldratt 1999). Owing to the influence of scientific management theories, a similar notion of diagnosis appeared in the public administration literature as far back as the late 1940s. In his infamous 1946 article, "The proverbs of administration," Herbert A. Simon argues that proper administrative analysis would indicate the factors standing in the way of efficiency, defined as the more effective accomplishment of the organization's goals. Such a diagnosis would represent an intelligent agenda for remedial action by the organization's decision makers. By this argument, a minimal criterion for an adequate diagnosis is that it would focus the efforts and purposive creativity of managers. For purposes of the present discussion, we tentatively accept Simon's broad conception of diagnosis.

We understand Simon to argue that one reaches a diagnostic conclusion by examining a situation through three different theoretical lenses. The first is the analysis of technical systems considering human factors, the second is the analysis of the sociological dynamics governing employee loyalties and the third is the analysis of the process of communication and decision making. These theories provide an interpretive framework for crafting a description of an organizational situation. They also serve as a basis for practical inferences about factors limiting organizational performance (see appendix 4.1 in this book).

Even if one accepted the outline of Simon's approach to administrative analysis, one could still differ today over the most heuristically advantageous theories for inclusion. Some would argue that economic theories of organization should be present or even supplant the other bodies of thought (Lynn 1996). Others would argue that empirical theories of governmental systems, informed by field research and systematic comparison of cases, would be of even greater heuristic value (Wilson 1989). We believe that the functional disciplines of management—such as accounting, operations management and human resource management—have much to offer theoretically as sources of descriptive schemes and diagnostic insight.

In addition, one could debate how the concept of *goal* should be interpreted. For instance, interpretations could range from increasing throughput within an operating cycle to creating public value over a timescale of decades.

In sum, diagnosis can be considered a skillful intellectual performance, incorporating a well-judged interpretation of the concept of *goal*. This performance is intended to craft a focused agenda for appropriate and effective remedial action. What makes for a fully satisfactory diagnosis is a matter of some debate. Beyond intuitively undertaking a diagnosis, educated public managers should be prepared to acknowledge the contested nature of the intellectual procedures involved. Arguably, educated public managers should be able to engage in reflective argumentative exchange about variants on Simon's basic model of diagnosis, in the abstract and especially in the context of particular administrative situations. Furthermore, students of public management should be able to unpack truncated, enthymematically thick diagnostic arguments—for all sorts of reasons, including testing their own reasoning and preparing to engage in dialogue with others.

CASE STUDY: DIAGNOSING THE SITUATION AT AFMC

The case evidence comes from Air Force Materiel Command, a sprawling, horizontally integrated support organization within the federal government. This major command of the U.S. Air Force is responsible for executing budget authority on the order of \$35 billion per year. Headquartered at Wright-Patterson Air Force Base near Dayton, Ohio, it employs nearly 90,000 people (military and civilian) and operates a \$45-billion physical plant located at twenty-two field installations in ten states. AFMC mainly serves internal customers,

including the combat air forces, the Air Mobility Command, Air Force Space Command and the Air Education and Training Command. For these customers, the organization overhauls jet engines, tests prototypes of weapon systems, conducts laboratory research, writes software, operates a supply system for spare parts and works with defense contractors on developing new air and space systems.

In preparing to take charge of AFMC in May 1997, General George Babbitt came to the view that he needed to solve a visible, acute performance problem, but more importantly, to improve efficiency over the long term. At the time, AFMC was viewed by the corporate Air Force as working fairly well, but costing far too much. When it came time to execute the Air Force's budget, top officials were repeatedly confronted with the unwelcome news that in the previous year AFMC had spent hundreds of millions of dollars more to operate its centralized supply and maintenance activities than had been planned upon. Babbitt took the view that AFMC also faced a long-term crisis. His experience told him that the command had not developed the orientation, motivation or tools to become more efficient, leaving AFMC extremely vulnerable to arbitrary budget cuts and mission failure over the medium to long term.

The idea that AFMC should place priority on efficiency was consistent with Babbitt's deeper values and background. At university, he studied engineering:

As far back as I can remember, I was interested in trying to understand cost because it is an important part of value. Cost is at least half of what you are trying to figure out. If you don't understand cost, you don't understand value. And an engineering solution that ignores the value is really a pretty poor engineering solution.

As Babbitt moved up through the maintenance career field in the Air Force, this same orientation colored his understanding of managerial work and responsibility. Babbitt came across situation after situation where he felt managers could have made efficient process improvements but did not seem motivated to do so:

Sometimes in the Air Force we have trained ourselves not to be responsible for the resources; that becomes somebody else's problem. You didn't have to look very far to see things that could be done just as well or better in terms of performance and for a lot less money if we took certain steps to change people's attitude and to motivate them differently.

As a general officer, Babbitt became intimately familiar with an organization that provided operating managers with the orientation and tools to reduce costs and improve quality. This organization was the Defense Logistics Agency (DLA), where he served as a deputy director in the early 1990s and as director just before taking over at AFMC in 1997.

At DLA, I saw that when you established both what was expected and how many resources were going to be consumed in the process, people understood what their responsibility was, and it was good for a year. I saw some pretty good management in DLA by people who felt empowered by that kind of business relationship. I was encouraged to believe that that would work at AFMC, too.

While Babbitt waited for the Senate to confirm his nomination as AFMC commander, he began to formulate a conception and plan for using his time and authority to remedy the command's long-term problem. Says Babbitt, "My aim was to get people to understand costs. You cannot make progress if you do not understand what it costs. I figured that if they understood what caused costs, they could explain them. If they could explain them, they could manage them."

When Babbitt arrived in Dayton, AFMC's budget information was organized by field activity and by type of Congressional appropriation. The command did not possess what an accounting professional or business executive would recognize as a management control structure, even though the command surely had a military command structure and budget system. At the time, AFMC's middle line was composed of officeholders responsible for all of AFMC's activities pursued at given field locations, referred to as "centers" and scattered throughout the country. Because many activities were conducted at multiple locations, the command lacked general managers, that is, an echelon of officeholders with line authority for all of the command's activities of a single type. General Babbitt considered that AFMC's command-wide organization structure and lack of relevant accounting information would make it very difficult to pursue the goal of increasing efficiency.

CASE ANALYSIS: INTERPRETING DIAGNOSTIC ARGUMENTATION

The AFMC case can be used to explain the concept of diagnostic argumentation. What was General Babbitt's diagnosis? The limiting

factor on performance was understood to be a combination of poor understanding of costs and weak motivation to take steps that would increase efficiency. These two factors were seen as interrelated, with weak motivation contributing to the relative absence of understanding, and vice versa. These factors also evinced common causes, namely the organization's culture and its accounting information system. The military ethic of effectiveness seemed to have relieved officials of the duty to achieve greater efficiency, while the accounting information system made officials ignorant of costs. Hence, remedial action was needed to alter AFMC's managerial processes and the context factors governing them, including organizational culture, accounting information systems and structured managerial roles.

Similarities between this diagnostic argument and Simon's model are worth bringing up. First, the situation was described in terms of decision making and communication processes. The primary focus of the participants in these processes was on acquiring resources and delivering programmatic accomplishments. Accounting information described the provision and execution of budget authority. Second, the organization was described in sociological terms as well. The culture of a military organization gave pride of place to succeeding in resource competition and in programmatic accomplishment. Third, the diagnosis reflected a judgment about what goals should be pursued in the situation, for purposes of improvement. Here the view taken was that improving efficiency should be given more weight than it had been given in the past. Finally, the diagnostic argument reached the conclusion that context factors surrounding the managerial decision-making process constrained goal attainment. More specifically, Babbitt saw the military culture and accounting information system as inhibiting the flow of managerial attention and effort required for AFMC to become progressively more efficient.

In presenting this case, Babbitt's diagnostic argument could be unpacked to show that the intellectual performance of diagnosis involves settling a range of debatable matters (see appendix 4.1). The analytical framework of diagnostic argumentation provides a structure for describing these matters. If we refer to the first formula, the situation could have been described by characterizing the institutional system within which AFMC is nested, including the Air Force, the Department of Defense and the federal government as a whole. Similarly, the situation could have been described in terms of habituated beliefs about proper public management, involving checks and balances between task performers and resource providers (similar to the bureaucratic paradigm, Barzelay 1992). Conceivably, the situation

could have been described in terms of incomplete contracts between the corporate Air Force and AFMC headquarters and between AFMC headquarters and the field commands. Finally, Babbitt himself worked heuristically with a subset of available theories relevant to diagnosis; one could discuss the advantages and disadvantages of the particular way the commander engaged in intellectual bricolage in the process of diagnosis.

Different descriptions of the situation would influence the framing of the second round of diagnostic argumentation. For instance, drawing on principal-agent theory, one could argue that the limiting factor in goal attainment lay in the specification of contracts between the AFMC commander and his subordinate commanders. Alternatively, drawing on institutional theory in sociology, one could argue that the institutional politics of resourcing in the defense department exerted both coercive and normative controls over organizational behavior at the AFMC level. One might infer from this line of argument that lack of provision of cost information to AFMC managers was not a limiting factor in attaining greater efficiency, but instead a symptom of a problem that was so large as to be irrelevant to the issue at hand—that is, what would be a reasonable agenda for the new commander's intervention in the situation?

This last observation suggests a difference between an explanation of a situation and its diagnosis. The latter is part of the process of management, which is related but not identical to explanation of facts and events. Babbitt was well aware that the larger institutional system was part of the explanation for AFMC's culture. Yet his diagnosis did not deem it a limiting factor. One could assert that the diagnosis was naïve. Alternatively, one could say that it was appropriately voluntaristic and geared to exploiting latent opportunities for some measure of improvement. The intellectual performance of a diagnosis includes taking a situated view about such fundamental matters of agency and opportunity.

Finally, this case provides an opportunity to consider the appropriateness of the selected goals that fundamentally inform the diagnosis. Not everyone would automatically agree that the situation called for improving organizational efficiency over an indefinite but extensive time-scale. Babbitt's goal reflected his ethic of resourcefulness in the solution of practical problems. It also reflected his reading of the politics of defense funding in the post-Cold War period and his view of the proper role of a support organization in a military institution. All of these considerations can be called into question in examining this particular intellectual performance of diagnosis.

Let us now examine a second intellectual performance in public management—designing and improvising active interventions from a position of institutional authority.

CASE STUDY: INTERVENING AT AFMC

General Babbitt considered that AFMC's command-wide organization structure would make it difficult to pursue the goal of increasing efficiency. Nevertheless, instead of reorganizing, Babbitt expanded the roles of senior officeholders within his headquarters. In doing so, he described these officeholders as having responsibility for specific business areas.³ The business areas included supply, maintenance, scientific and technological research, testing and evaluation, product support, and installations and support. Babbitt called the individuals given responsibility for specific business areas "chief operating officers." These officials did not enjoy line authority over the organizations that performed their businesses' delivery functions because the command as a whole was not reorganized. Nonetheless, General Babbitt consistently asserted that the chief operating officers were responsible and accountable for their respective business areas.

General Babbitt told the newly appointed chief operating officers, who continued to perform their other assigned responsibilities as members of the AFMC headquarters staff, that they were accountable to him, as chief executive officer, for the efficiency and effectiveness of their respective business areas. Speaking first to the executive council of AFMC, composed of the chief operating officers and other top-level headquarters staff, and then throughout the organization, he reiterated: "You are cost managers, not budget managers—your job is to deliver products and services that meet performance standards and lower unit cost targets, through continuous process improvement . . . your job is not to acquire bigger budgets and spend it all." He explained that this meant that "[f]or products and services that meet performance [quality] standards, your job is to drive down unit cost; for products and services that do not meet performance standards, your job is to improve performance [quality], without increasing unit cost."

After spending much of the summer of 1997 talking to his headquarters staff and traveling around the country to visit the numerous AFMC centers, Babbitt brought this cultural issue out into the open. Babbitt wrote up his own briefing charts in preparing for a conference of officials in the Air Force's acquisition community, where he was invited to speak. The charts' headlines set up a stark contrast between

the established “culture of budget management” and the desired “culture of cost management.” Babbitt’s presentation went on to declare the goal of creating a culture of cost management in AFMC. This goal, the charts stated, “required a commitment to improving performance and reducing the cost of outputs at the same time.” The presentation was warmly received. From that point forward, the budget-versus-cost management rhetoric became a staple of Babbitt’s internal and external public communications. As he later recalled:

I felt like I had to say it over and over again in order to build a critical mass of people who were pointed in the right direction. And for the first six months I used the same briefing charts over and over again to try to make people believe that cost management would be my focus and that I would stick with it.

Persistence was an important aspect of the General Babbitt’s efforts to bring about a culture of cost management not only because AFMC was a huge organization but also because the command’s routines were so deeply imbued with the culture of budget management. At the outset, for instance, the concept of cost of outputs had no operational meaning, except in the working capital fund operations of supply and maintenance. In the rest of the command, financial information included the level of budget authority, the programmatic category and the organizational unit executing the budget. Babbitt decided that the first order of business was to lead a process whereby the chief operating officers would define their business areas’ outputs, as a step toward calculating the current unit costs. Once such quantities were known, he planned to build on this platform to redirect attention toward understanding and managing costs.

Conceptualizing Unit Costs

As an accounting concept, unit cost was not entirely familiar to the AFMC headquarters staff. To acclimate the staff to the concept, Babbitt handed out copies of a quick-study primer on the subject, entitled *Accounting for Dummies*. At the same time, he used a concept from a more familiar domain—the systems engineering field—to label the first step in the process of calculating unit costs. The concept was a work breakdown structure. This construct successively divides the work involved in accomplishing a desired end-state into component activities, each leading to a result that contributes to the overall outcome. Applied to modeling a business area, a work breakdown

structure becomes a hierarchically ordered taxonomy. Each taxonomic category within this functional hierarchy would be described in terms of the output that the effort was meant to produce. Thus, the first phase of the process for knowing unit costs was to represent business areas as functional hierarchies of work effort and associated products.

The initial assignment handed to each chief operating officer was to develop a work breakdown structure for his or her business area and to present it to General Babbitt and their peers at weekly sessions of the executive council. The time-scale for accomplishing this assignment was about six weeks. As the presentations took place, vast disparities in such constructs became apparent. Some chief operating officers were beginning to work out hierarchical taxonomies whose categories lent themselves to quantifying delivered products or services. Initially, however, chief operating officers from some business areas presented work breakdown structures with only two tiers. The elements comprising the lowest tier of these hierarchies were conceptually distant from a quantifiable product or service. In nearly every instance, the chief operating officer was asked to bring an improved construct back to the same forum for discussion within a few weeks. In many of the business areas, the identification of work product was ultimately successful. The most elaborate instance was the installations and support business area, led by then Brigadier General Todd Stewart, who served concurrently as the command's chief engineer. Stewart identified sixty-five distinct products and services, most of which were produced at all twenty-two of the AFMC's facilities.

Conducting a Bold Experiment with the AFMC Program Submission

Within six months of General Babbitt assuming command, many of the elements of General Babbitt's intervention were in place. Around command headquarters at Wright-Patterson, the vocabulary of businesses, chief operating officers, outputs and costs was becoming more familiar. The discourse of cost management was becoming fine-tuned, providing a way to describe what the command needed to do in order to accomplish its mission of efficiency and effectiveness—namely, to possess the capacity to manage costs. Field commanders were exposed to the new lexicon and its associated practices at quarterly commander's conferences.

Meanwhile, as the chief operating officers were struggling to define outputs and measure costs, Babbitt considered his next move. On the horizon was a major cycle of medium-range planning and budgeting

activity, involving building an AFMC program for submission to the Air Force headquarters. The Air Force program would later be submitted to the Office of Secretary of Defense. In the upcoming cycle, spending plans for five years beginning with the 2000 fiscal year would be revised. In addition, spending for the distant fiscal years of 2005–06 would be outlined for the first time. Babbitt came to view the upcoming programming cycle—called Building the FY '00 program—as a major opportunity to carry forward the process of instituting a cost management culture.

The commander told his headquarters staff and the centers that the AFMC program would not be built as before. Under Babbitt's recent predecessors, AFMC headquarters had played a relatively passive role in the programming process. The units within AFMC submitted their requests, and headquarters tended to bundle them together and send them off to the Pentagon. In this case, the programming process was to be centered at AFMC headquarters, with Babbitt's personal involvement and with a prodigious role played by the chief operating officers, backed up by the staffs of the plans and programs and financial management directorates.

Babbitt's conception of the programming process was more radical still. Three aspects of the program were unprecedented. First, General Babbitt let it be known inside and outside the command—including to a conference attended by all four-star generals in the service—that AFMC would be “giving money back to the Air Force.” Less colloquially, he meant that AFMC would submit a program that requested less total obligational authority than had previously been programmed. AFMC would, in effect, volunteer to reduce its spending authority compared to the base-line figures set in previous programming cycles. Second, the commander indicated that the base-line figures in budget accounts were irrelevant to building the program. Internally, the programming process would no longer revolve around calculating and justifying adjustments in the various spending accounts that comprised the Air Force's programming and budgeting system. From Babbitt's standpoint, the base-line amounts in spending accounts were financial quantities of no genuine relevance to performance planning.

The quantities of relevance, in his view, were base-line unit costs. Babbitt ruled that spending plans should be derived by multiplying two quantities: targets for unit costs and the volume of quality outputs that AFMC would need to produce for its customers. Third, the commander required that unit costs for FY '00 be lower than the base-line level of unit costs. In other words, AFMC would commit to

becoming more efficient. The combined effect of these three radical departures from past practice was a certain amount of initial disbelief. One center commander, who later participated energetically, was known to have told his own staff, "I thought I had been invited to the Mad Hatter's tea party."

The cycle started with unit-cost estimates—the result of the work packages and unit-costing exercises described earlier (the first identified products, the second identified their costs). The cycle continued with these measures being used to assess the performance of the working-capital funds (along with relevant operating information, such as on-time deliveries) and budget execution in the rest of the organization. The immediate effect of this step was an end to the working-capital funds' losses in 1999 and 2000. Next, unit costs were used to prepare AFMC's future-year program proposal for 2000–05, the first year of which constituted its budget request for fiscal 2000. The program was put together for the command by multiplying unit costs in each of the business areas by their planned output levels (target costs were used for out-years).

When it was done, however, AFMC had produced a spending program for 2000–05 that was consistent with the Air Force's budget guidelines; this implied planned cuts of \$1.1 billion. Moreover, AFMC promised to return an additional \$1.4 billion in savings to the Air Force, thereby reducing its request by \$2.7 billion. The 2000 program also proposed to reinvest \$0.3 billion to achieve future savings and performance improvements.

A huge technical and presentational problem was that the accounting structure underlying the Air Force's programming and budgeting systems had nothing to do with AFMC's businesses, outputs and unit costs. The command's program budget submission had to make sense to the Pentagon. Translating from one accounting structure to the other was a nightmarish task for the programming staff at AFMC headquarters.

Before the programming cycle began in earnest at Air Force headquarters, General Babbitt traveled back to the Pentagon to brief his submission. The surprising news that AFMC would be coming in with a decrease in requested budget authority was warmly welcomed by the senior general officers in the room, not least because all the other major commands were coming in with programs that substantially exceeded their fiscal guidance. While Babbitt's approach was a godsend for the most senior officials at Air Force headquarters, everyone knew that final programming decisions were substantially based on recommendations made by less senior officials participating in the process.

In many situations, these working-level programmers would be blind to the effects of their actions on the AFMC's plans to lower unit costs. In one envisioned scenario, a proposed increase in spending in one budget account would be evident to one group of programmers, while the savings in another account would be evident to a different group. The first group could reject the proposed increase in spending, while the second group would naturally accept the proposed decrease. In that event, business plans for decreasing unit costs would be undone and AFMC would receive an unwanted budget cut.

Anticipating this palpable risk, the colonel in charge of programming at AFMC headed to the Pentagon:

We had to go to the Air Force and say, "We've done our program based on products and unit cost. We built our program bottom up, and then we loaded money into budget accounts. So don't muck with our program because you need to understand that it is all interwoven and interlocked." That's where we got in trouble. The corporate Air Force saw this as Air Force Materiel Command trying to pull the wool over their eyes. They thought we were gaming them.

The programmers on the Air Staff in Washington were not entirely sure what to do with AFMC's program submission. In time, word came down that programmers working on AFMC accounts needed to check with Dayton before making changes. According to Col. Borkowski, "That got translated to, 'you can't mess with the AMFC program,' which was just fine with us." As Babbitt recalls:

The Air Staff tended to say, "OK, even though we don't understand completely why they asked for money in these areas, we are going to bless AFMC's program and allow it to go up to Department of Defense the way they submitted it. And we'll spend our time working with these other commands that asked for billions of dollars more than was in their fiscal guidance." This response got us over that hump.

The programming process, which was completed by the time Babbitt marked his first year in office, represented a key milestone in the process of instituting the cost management culture at AFMC.

Amending the Quarterly Execution Review

Babbitt's second major process adjustment was to the command's quarterly execution review. Under his predecessors, the quarterly execution review was primarily concerned with unused obligational

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authority and was performed by the command's financial officers. Babbitt refocused it on unit costs, timely corrective action and accountability for performance. Moreover, he required AFMC's operating managers to play a leading role in the review process and actively participated himself. In February of 2002, Todd Stewart attributed much of AFMC's success in controlling working-capital fund losses in 1998 and 1999 and in executing the 2000 and 2001 budgets as programmed to this process.

The quarterly execution review provided real benefits under Babbitt. It allowed us to find problems and run our businesses. This was true not only for us at headquarters but also at the centers. Every three months operating officers were forced to review the status of "their" business areas, especially with respect to variances from planned activity, spending and unit costs. You have to force busy people to do this. Otherwise, they will be totally caught up in day-to-day activities.

This was also a sharp break from past practice. AFMC's division of authority and responsibility had traditionally distinguished between fiscal functions (the duty of financial managers) and service delivery functions (the duty of operating managers). The job of operating managers, to the extent that it had a fiscal aspect, had been defined in terms of getting and spending money. In contrast, Babbitt now expected operating managers to ask for less and, where possible, to use even less than they got. At the same time, he refused to tell his subordinates how to manage costs or even how much to cut them. He believed that to do so would be contrary to the cultural norms he sought to instill throughout AFMC. Instead, Babbitt imposed a substantial argumentative burden upon his operating managers. He said, "Tell me your unit costs and what drives those costs. Then tell me what you are going to do to manage them."

Stewart described Babbitt's role in the quarterly execution process as follows:

Babbitt rarely if ever dictated or changed proposals. He challenged ideas. And at each iteration of the process the challenges got harder. The discussions could be very frank and sometimes acrimonious. If the individual reporting couldn't justify his area's spending or unit costs, that person had to decide what to do about it. The result could be an agreement to present revisions at the next meeting, identification of specific action items to be addressed or personal feedback to General Babbitt . . . However, as long as the chief operating officer was satisfied with the answers provided by the centers, the result was never to go

back to them and ask for bigger cuts. A successful chief operating officer had to be able to stand up to General Babbitt's questions. He needed to be able to say, "I have spent hours and hours on that analysis and, for the long-term health of the command, we have to spend the budget." Of course, no one wanted to look unprepared or incompetent. That provided a lot of incentive to get up to speed on these issues as quickly as possible. But the [quarterly execution] review process wasn't used to punish; it was used to try and find and correct problems and to cascade the process [of finding and correcting problems] down the command.

Many of Babbitt's operating managers, especially the field-unit commanders, could not at first understand what Babbitt wanted of them when he invited them to debate and dialogue about their costs. They lacked the experience-based cognitive models to do so. Consequently, they grumbled: "Why won't he just tell us how much he wants to cut our budget? Why is he wasting our time with this stuff?"⁴ Fortunately, it didn't violate Babbitt's self-imposed constraints for members of his staff to offer advice about what Babbitt was looking for. Moreover, a few of Babbitt's more visible chief operating officers were ready to meet the burden of argument and eager to exercise the power Babbitt delegated to them. They provided the examples that most of the others eventually emulated.

Predictably, this process put the chief operating officers in conflict with heads of field units—and in a somewhat weak position, as when a one-star chief operating officer was in conflict with a three-star center commander. Despite indications of widespread discomfort with this situation, General Babbitt did not retreat from his view that chief operating officers were accountable for the efficiency and effectiveness of their businesses. Once, for example, in a session where the commander was responding to questions that had been collected by his staff, Babbitt was asked anonymously, "If a three-star field commander and a one-star chief operating officer cannot reach an agreement, who wins?" Babbitt's terse—unexpected—answer was: "If I have to resolve it, they both lose." In this way, Babbitt strengthened the hand of the key agents in the change process.

CASE ANALYSIS: INTERPRETING THE ACTIVE INTERVENTION

What does the AFMC case tell us about the managerial work of designing and improvising interventions? First, it says that there is much more to designing and improvising an intervention than sound

diagnosis and initiation, working out an interpretation of value, agency, and responsibility in messy factual circumstances, which is, if we understand it correctly, Mark Moore's general position. Improvising an intervention involves purposefully creative effort—the creative *employment* of existing materials to remedy deficiencies or realize visions of betterment. That is precisely what Babbitt did, using very conventional instruments, for the most part: the work breakdown structure (a concept from the Air Force's TQM period), unit-cost-based budget formulation and execution (a concept from the controller's shop in the defense secretary's office of the early 1990s and the performance budgets of the 1950s), trading spending authority for greater operating independence (a ubiquitous budgetary stratagem), holding product line managers responsible for financial results and relying on interactive control (from management accounting and control, for example).

But what was the intellectual performance that Babbitt demonstrated in improvising this intervention? One can divide it into two aspects. One was to work out an intervention scheme that went beyond diagnosis: a focused agenda for appropriate and effective remedial action. This intellectual performance might be described as formulating the intervention's doctrine. This is something like what Hood and Jackson (1991) refer to as formulating an administrative argument, except that here it included an interest in change and was not just a static formulation of good practice (in their terms an "organizational design"). What's interesting about Babbitt's intellectual performance, within the design stage, is the bricolage, involving knowledge of government, quality management, and management accounting and control (see appendix 4.1) to conceive of an alternative culture of management within his command—what he called cost management—and to craft a coherent made-to-measure conception of business management for AFMC.

The other aspect of his intellectual performance lay in mobilizing creative adaptive responses to this agenda. This intellectual exercise entailed shaping the intervention to the changing situation. The question that Babbitt had to answer was, What kind of process would favor adaptive responses and what should he do as an authority figure? Notwithstanding the skill element of his design effort, there was considerable scope for reasoning explicitly on this matter. Babbitt knew that his position and rank invested his pronouncements with great authority and that he had the full attention of his subordinates. Deference to executive pronouncements is the norm in most social settings, but it holds a fortiori in military organizations. Babbitt

believed, however, that to be successful on his terms he couldn't just tell his subordinates what to do. The adaptations had to come from them. He believed this in part because he thought that, in order to manage costs, an executive had to understand them. And such an understanding could not be developed by a simple relationship of command and obedience.

This approach violated time-honored expectations about the exercise of leadership in a military organization. Babbitt anticipated that his invitation to debate and dialogue about costs would induce stress (although he initially underestimated the amount of stress it would cause). But he believed that his subordinates had to be challenged to elicit creative responses from them and that this was the best way to promote learning throughout the organization. Finally, he understood that he had to vest his intervention with a sense of moral purpose, persuading his subordinates that cost management wasn't merely something he thought was important but was truly the right thing to do.

The second part of Babbitt's intellectual performance was ~~substantial~~ in his creation of structured processes that put people in a series of situations where they were highly motivated to learn how to manage costs, and in how he paced the learning process. The makeover of the quarterly execution review illustrates this point clearly. Like most Socratic processes, it provided a noteworthy opportunity for teaching and learning and for infusing the culture of cost management throughout the organization, thereby establishing a basis for sustained operational improvement. Babbitt's role in the review process also unambiguously illustrates the interactive work required of leaders in improvising an intervention: exercising influence over subordinate authorities, inculcating understanding and acceptance of novel lines of administrative argumentation and promoting the learning through which organizations improve their routines and capabilities.

So the question begins to form: How could this case be combined with non-case material in order to help students think at a high level about the intellectual performances of designing interventions? The discipline of management accounting and control provides very little in the way of guidance on this particular issue. Management accounting and control is not centered on the process of making change in organizations, although Robert Simons' notion of interactive control offers some ideas about promoting organizational learning (1995). Much the same can be said of quality management. While it provides a sense that change occurs through managed processes, Babbitt's agenda was not focused on improving processes but on transforming

AFMC's culture and its correlates. The main point made by the discipline of quality management relevant to mobilizing creative adaptive responses is that they should come from the people who do the work rather than from leaders or staff specialists.

A better way of putting this question is, "What social mechanisms and processes are supposed to be activated through the initiating and follow-through action by authority figures?" Public management research and analysis about the type of intellectual performance involved in designing interventions is showing considerable vitality (Bardach 1998; Barzelay and Campbell 2003; Bryson and Crosby 1992; Heifetz 1993; Lynn 1996), but for this case, Ronald Heifetz's theory of interventions, which he outlines in *Leadership without Easy Answers* (1993), seems to us most apposite. Heifetz observes that technical problems and adaptive challenges are behaviorally very different, that meeting adaptive challenges is a process, that authority relations are resources and constraints on the exercise of leadership, and that skillful use of these resources is necessary to meet adaptive challenges.⁵

In teaching this case one could summarize Heifetz's position as saying: It is a fact that individuals and communities sometimes face "crisis" situations, defined as ones where following routine procedures, enacting familiar patterns of social relations, and maintaining the same attitudes and values would be counterproductive. Presumably, communities want to respond effectively to crises, and the issue is how to accomplish this goal. Responding effectively to a crisis situation requires political, emotional and intellectual work—what Heifetz calls "adaptive work." One of the preliminary discussions should be on how to conduct the process of adaptive work.

Heifetz asserts that certain elementary social and psychological processes foster causal connections between authority figures' actions (messages) and others' thoughts, feelings and actions as a crisis situation (episode) unfolds:

- (1) Authority figures' messages tend to receive a high level of attention because people look to authorities for answers and reassurance in crisis situations.
- (2) Authority figures' messages are more reassuring when they are reinforced by plausible appeals to shared ethical norms or moral values.
- (3) When authority figures' messages do not fully match expectations for answers, stress levels increase.
- (4) Such stress can mobilize people to do adaptive work.

Given these psychological processes and given presumptions about moral agency, it is reasonable to suggest that authority figures approach their task of designing (and improvising) an intervention by applying five principles of leadership to the situation at hand. According to Heifetz, these are:

- (1) Identify the adaptive challenge, given the situation and the values at stake.
- (2) Regulate stress so that it is persistent enough to motivate adaptive work but low enough to be tolerable.
- (3) Direct disciplined attention to ripening issues.
- (4) Give the (adaptive) work back to the people.
- (5) Protect voices of leadership without authority.

If we focus on process rather than conditions, these principles describe in general terms what Babbitt did and how his nominal followers responded, both positively and negatively. Indeed, his intervention reflected these matters of pacing of adaptation (learning) and the masterful use of the resources of authority to a remarkable degree. Consequently, one could reasonably conclude that Babbitt's theory was heuristically appropriate to the problem of mobilizing creative adaptive responses to his agenda.

So what do we conclude? Intervention design involves a couple of different intellectual performances. One is developing a conception of the intervention that elaborates on the diagnosis. Ideas drawn from and merged with the functional disciplines and schools of thought of management appear to be heuristically apt for this particular intellectual performance. (They may also be helpful for purposes of persuasion, but that is a different matter.) Second is designing a process in which the executive, as authority figure, is a source of attention, direction and energy, and can pursue the various kinds of interactive work enumerated earlier (influence others, introduce new lines of argumentation, foster learning).

CONCLUSIONS

This commentary is not meant to be exhaustive, but rather sufficient to persuade the reader of several major points. First, public management involves demanding intellectual performances. Second, such intellectual performances include exercising practical reason about agendas for leadership interventions. Third, the concept of diagnosis is a potentially useful construct for representing the patterns of

thought and inference underpinning the intervention agenda. As such, it is a vehicle for structuring critical discussion of particular intellectual performances in public management. Fourth, the educational process, using case teaching, is entirely compatible with analyzing intellectual performances of public management. Indeed, the dialogue between general issues about proper diagnosis and specific exercises of this type of intellectual performance is essential to the educational process. Finally, the educational process should lead public management students to think hard about such theories and their utilization for the design of interventions. The problem is that it does not now do so.

Our bottom line is that major changes in pedagogy and content are needed to achieve the educational goal of the case teaching process—to comprehend the intellectual performances involved in public management, a goal that is unachievable following the standard approach. There remain issues of the practicality⁶ of modifying the educational process to achieve this goal, especially when the larger educational program does not provide familiarity with practical reasoning as a mode of thought and discussion (e.g., through ethics courses) and when methodology courses don't include process-oriented analysis of events. We acknowledge that this is not a trivial issue. Nevertheless, we believe that we have demonstrated the desirability and workability of these changes. That is a good start.

APPENDIX 4.1: REVERSE ENGINEERING OR UNPACKING DIAGNOSTIC ARGUMENTS

If Simon is taken as a point of reference, the intellectual performance of diagnosis can be represented somewhat formally as follows:

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- (1) Described Situation (S) \rightarrow A_s (Perceptions, Theories)
- (2) Diagnosis (D) \rightarrow A_d (Described Situation, Theories, Goals)

As can be seen, diagnosis involves a two-step intellectual procedure. The first is to describe a situation, while the second is to arrive at a diagnosis on the basis of an earlier description. The first formula indicates that a description is rendered in terms of categories taken from the theories used for administrative analysis. If the theories cited by Simon are used, then the situation should be described in terms of task design, group or organizational loyalties and communication patterns. The second formula indicates that, in this subsequent phase of diagnostic argumentation, theories operate as sources of presumptions about the effect of described factors on the level of goal attainment.

What was the implicit inferential process leading to Babbitt's diagnostic conclusion that the achievements of AFMC over the long run were substantially constrained by the organization's management culture?

- (1) $D = A(\cdot)$
- (2) $D = A(S, T)$, S is situation, T is theory
- (3) $T = A(\text{PPG}, K_G, \text{MAN})$
- (4) $\text{MAN} = A(\text{MAC}, \text{BPM})$

Where

PPG refers to public value, with cost being a factor.

K_G refers to knowledge of government, combined with S, needed for an assessment of future budgeting politics and outcomes.

MAN refers to practice-oriented management disciplines.

MAC refers to managerial accounting and control.

BPM refers to business process management.

Here, then, is the flow of Babbitt's diagnostic argument. It included developing a new concept—budget management culture—as a means of explaining the gap between actual and desired public value. It also included the whole concept of diagnosis. The Babbitt case indicates that public managers engage in a half-dozen different intellectual performances:

- (1) Synthesizing management ideas—see formula (4).
- (2) Selecting and reformulating K_G .
- (3) Synthesizing PPG and MAN—translating efficiency as a “good” into doctrinal arguments about how to pursue this good in big organizations.
- (4) Synthesizing MAN and K_G —seeing some tendencies in governmental organizations to exert negative influence over the practicality of doctrines about how to achieve efficiency.
- (5) Perceiving S—an exercise in attending and equivocality reduction, aided by tacit consideration of T.
- (6) Diagnosing—mixing S and T to establish D.

Which of these six intellectual performances do students usually become educated to accomplish in the typical public management case teaching formats? We observed that a lot of emphasis is placed on 2, 5 and 6. The remaining intellectual performances may occur but are rarely emphasized; often consideration of 1, 3 and 4 is not subject to conscious thought.

NOTES

1. The distinction between process design features and process context factors is discussed in Barzelay and Campbell 2003, chapter 5, and Barzelay and Thompson (~~in press~~).

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2. Broadly speaking, this point is drawn from the work of Charles E. Lindblom.
3. Babbitt divided AFMC in business areas in much the same way that his predecessors had divided the command into mission areas, which had been overseen by committees of staff officials. Babbitt separated supply and maintenance into different business areas since they operated different working capital funds.
4. Borkowski, El Segundo, California, February 2003.
5. Eugene Bardach's analysis of smart practice (1998) is in this conversational frame as well. Its logic is compelling and apposite (Bardach's analysis provided the theoretical framework for Barzelay and Campbell 2003, for example). But it is a bit too complicated for the AFMC case (while his eight-fold path version, 1996, is somewhat cryptic). Nevertheless, Bardach provides what we believe is the master metaphor for managerial work—craftsmanship.
6. In general, a proposal is *impractical* when the means are unavailable to put it into operation, while a proposal is *unworkable* when it will not remedy the problem or deficiency.

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