# INTEGRATING INDIVIDUAL AND ORGANIZATIONAL LEARNING: AGENCY LESSONS LEARNED SYSTEMS AND THE CASE METHOD IN TEACHING PUBLIC PROCUREMENT

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**ABSTRACT.** Numerous public agencies have implemented systems for capturing and disseminating "lessons learned." To the extent that these systems provide descriptions of procurement practice, they compose a repository of case studies that may be used to train and educate public procurement professionals. Realizing the potential for such use depends on the degree to which agency organizational learning processes and procurement teaching processes may be integrated. This paper (1) describes lessons learned systems as potential resources for case studies for use in teaching public procurement; (2) presents some issues and challenges associated with such use; (3) describes the unique position of the in-service procurement student in integrating organizational and individual learning; and (4) concludes with comments on the contributions of lessons learned systems to public procurement's intellectual development.

# **INTRODUCTION**

The purpose of this paper is to develop a relationship between the use of lessons learned systems in procurement organizations and the case study approach in procurement training and education. Since the lessons in these systems have strong similarities to case studies, they constitute a potentially rich resource of teaching cases in public procurement courses. This potential can be realized as teachers of public procurement and their in-service students begin to participate to a greater extent in agency lessons learned systems.

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The motivation for this paper emerged from a project, on which the author served as consultant, to develop a lessons learned system for a large public procurement organization. It became evident to the project team that, before the system could be formally "launched" in the organization, a significant number of actual lessons would have to be present in the system so that its users could acquaint themselves with its operation. Efforts to elicit lessons from agency members proved unsuccessful, for reasons that will be discussed later. A solution to the problem was found in a group of students enrolled in a procurement-related Master's degree program. Since many of these students were also all procurement practitioners in the organization sponsoring the project, they were assigned the requirement, as part of their coursework, to write lessons for the system.

The team also realized that the lessons the students produced would be fairly high quality descriptions of thorny, "real-world" problems, which are in many ways similar to case studies. Since these would be stored in the lessons learned system, they were available for use both by teachers as cases and by practitioners as lessons. This situation demonstrates the integration of individual learning through an educational program and organizational learning through a lessons learned system. It also provides a clear example of how theory and practice may be integrated to guide the future development of the field of public procurement.

The paper begins with an overview of lessons learned systems—their background, operations, characteristics, and issues with their use. It then turns to a discussion of the case method and its uses. It presents the need for more case studies in public procurement and proposes that lessons learned systems provide a way to meet this need. It concludes with a discussion of the benefits and challenges of adopting such an approach, along with broader implications for the theory and practice of the field.

### LESSONS LEARNED SYSTEMS

Though the idea of learning from experience is timeless, formal organizational systems for capturing and disseminating lessons are relatively new phenomena. Attention to and investment in such systems have been especially evident in the private sector, where a firm's learning capabilities and knowledge are viewed as strategic resources

that give it a competitive edge (Nonaka & Takeuchi, 1995; Stewart, 1997). Advances in information technology in areas such as intranets, data repositories, and expert systems hold out the promise of wider, more efficient distribution of lessons within an organization (Callaghan, 2002; Davenport, 2005).

# **Organizational Learning**

The ideas that underlie lessons learned systems are related to those of pragmatism. John Dewey believed that people learn principally by doing (1925; 1933; see also Schön, 1983). Based on experienced *consequences* of past actions, individuals develop implicit theories that guide future actions, or "habits of action." Individual learning occurs when habits of action are modified and adjusted to respond to new problems or in light of newly experienced consequences of actions. In a similar vein, organization learning (March & Olsen, 1975; Argyris, 1982; Kim, 1993) extends this view of human learning to the idea that an organization can "learn" to respond to new problems or experiences. Lessons learned systems provide one resource to enable this organizational learning from experience.

"organizational learning" Phrases such as and "learning organization" may raise issues of reification and anthropomorphism (Lipshitz et al., 1996). Clearly, learning is a human activity, and people make up organizations. Some writers address such issues by defining organizational learning in terms of members learning from each other, that is, when members share "theories of action (Argyris & Schön, 1978) or "mental models" (Senge, 1990). Others see an organizational culture (Schein, 1985; Kotter, 1992) that promotes such sharing through honest and open communication as a key determinant in the creation of a learning organization (Cook & Yanow, 1993).

Lipshitz *et al.* take a structural approach by focusing on organizational mechanisms that facilitate, make explicit, or routinize such sharing. These are "institutionalized structural and procedural arrangements that allow organizations to systematically collect, analyze, store, disseminate, and use information that is relevant to the effectiveness of the organization" (1996, p. 293). Such mechanisms could include organization histories, project reports, after-action reviews (Busby, 1999) and more generally, lessons learned systems (described in more detail below). These mechanisms are intended to allow an individual's learning to become recorded in an organization's

documents, processes, and other "memory" media in such a way that other members may learn from it. From this perspective, organizational learning occurs when such mechanisms are employed, and the learning organization is one that employs them.

At this point, it is appropriate to remark upon knowledge management (Davenport & Prusak, 1997; Arcote, 1999; Drucker, 1999; Brown & Duguid, 2002), an emerging field of study that incorporates many organizational learning concepts. Because it is relatively new, researchers have not yet established rigorous conceptual boundaries between the two. One probably can safely say, however, that organizational learning research stresses organizational processes and thus has a strong "organization development" (Johnson, 1976; Bradford & Burke, 2005) flavor, while knowledge management research emphasizes managerial processes associated with knowledge creation, elicitation, analysis, storage, and dissemination (Nissen 2006).

Other organizational learning concepts include single-loop learning (Usher & Bryant, 1989), which occurs when members take actions in response to perceived problems or opportunities and evaluate the effects of those actions. Double-loop learning (Argyris, 1974; 1982) is characterized by a double feedback loop that connects the detection of problems and opportunities not only to corrective actions, but also to an organization's implicit assumptions and underlying norms. Such learning often challenges the *status quo*, and it can lead to fundamental organizational transformations as new norms and assumptions arise (Argyris, 1990).

To summarize, organizational learning concepts explain the intended benefits of lessons learned systems--to contribute to improved effectiveness or to facilitate an organization's adaptation to a changing environment. These occur through the modification of an organization's habits of action, which might be reflected in changes to informal and tacit routines of operation or in revisions to formal and explicit SOPs, policies, or regulations.

# **Lessons Learned Systems: Operation and Characteristics**

The phrase "lessons learned system" as used in this paper refers to the activities, people, and products that support the recording, collection, and dissemination of lessons learned. Most of these systems in use today are Inter- or intranet-based. Their focus is usually on "negative" lessons of failures, deficiencies, and other problems, though some systems include "positive" lessons of innovative techniques, so-called "best practices" and "success stories."

One of the first and best-known lessons learned systems is the U.S. Army's Center for Army Lessons Learned (CALL), established in 1985 for the purpose of collecting lessons learned during simulated combat training exercises. Over the years, CALL's mission has expanded to encompass lessons from actual combat and other military operations. CALL's methods include both active collection of lessons by dedicated expert observer teams as well as passive collection of lessons submitted from the field. Following analysis, CALL disseminates lessons in a wide variety of media, including newsletters, handbooks, and bulletins, as well as via the Internet.

Like the Army, other agencies have developed lessons learned systems, and each organization's approach varies somewhat. For example, CALL defines a lesson learned as "validated knowledge and experience derived from observations and historical study of military training, exercises, and combat operations" (U.S. Army, 1997, p. 1). In contrast, the U.S. Marine Corps defines lessons learned as "procedures developed to 'work around' shortfalls in doctrine, organization, equipment, training and education, and facilities and support" (U.S. Marine Corps, 1994). Examples of U.S. public procurement agency lessons learned systems include those operated by Defense Acquisition University, the Army's Communications and Electronics Command Acquisition Center, and the National Aeronautics and Space Administration (NASA).

Zack (1999a, pp. 48-49) describes the general sequence of operation of a lessons learned system. First a lesson is generated, usually by the individual learning the lesson or by an observer. The lesson is then submitted to the lessons learned system for processing, the extent of which is discussed below. It is then made available to other members of the organization, whether through publication and dissemination, or by storing it for later retrieval.

While lessons learned systems have the same general objective, they differ widely in aspects of design and operation. Table 1 is adapted from Aha's (2000) characterization of lessons learned systems.

Lesson factors describe the "product" of the system; that is, whether it produces lessons only (pure) or includes other products such as best practices or information updates (hybrid). They also describe the type(s)

of processes addressed by the lesson or other product. Technical processes usually deal with scientific, engineering, or other highly technical matters. Administrative processes usually involve routine procedures or decisions made by a single individual, for example, a purchasing specialist. Planning processes entail more complex and strategic matters involving multiple stakeholders.

Operational factors describe how lessons learned systems function. Formal systems have established procedures and processes of operation, such as those described in CALL above. The U.S. Geological Survey

TABLE 1 Lessons Learned System Characteristics

<b>System Factors</b>	Variables						
Lesson							
	Content	Pure or Hybrid					
	Process Type	Technical, Administrative, or Planning					
Operational							
•	Formality	Formal or Ad Hoc					
	Locus	Centralized or Distributed					
	Process Relation	Embedded or Standalone					
	Acquisition	Active or Passive					
	Handling	Rigorous or Open					
	Dissemination	Active or Passive					
Organizational	•	•					
	Interpretive Context	High, Medium, or Low					
	Type	Adaptable or Rigid					

Source: Adapted from Aha (2000).

has taken a more ad hoc approach in generating lessons that are based in the findings of scientific studies of the environment. CALL is an example of a centralized lessons learned system that serves the Army worldwide from its offices at Fort Leavenworth, Kansas. In contrast, the Department of Energy operates a distributed system with a networked infrastructure of systems and lessons learned "coordinators" at various sites and contractor facilities. Lessons learned systems are embedded if they operate in an integrated fashion during other organizational activities and processes, as in the case of Army units conducting afteraction reviews in the course of training exercises (Baird et al., 1999). Embedded systems usually feature active acquisition and dissemination ("pull" and "push") of lessons, while standalone systems "wait" for user input and retrieval of lessons.

Handling refers to the level of treatment a lessons learned system gives a lesson after it has been generated. Rigorous handling implies significant control through some review and approval process, while open handling implies little or no control of lessons. At bottom, handling involves decisions as to whether one individual's learning, as reflected in the lesson, should be shared with others. Questions that arise here may include: Does the information in the lesson need to be verified, substantiated, or validated? Is additional information or discussion necessary to make it understandable to others? Does it sufficiently describe context and circumstances so that other members of the organization can judge the lesson's relevance under differing conditions? Is it consistent with organizational goals and policies?

Two organizational factors may be considered when determining how handling should occur. Interpretive context (Zack, 1999a, p. 50) refers to the extent to which members of an organization share similar knowledge, backgrounds, and experiences. Lessons generated in an organization with a high interpretive context will likely be understood by all members, while those in a low interpretive context may need to be "translated" during handling for broader understanding. The other organizational factor to be considered is how rigid or adaptable an organization is in terms of changing its "habits of action" in response to lessons learned by its members. An organization may have a culture that inhibits its ability to change, or it may be constrained by laws, professional standards, or by other organizations. Such constraints indicate the potential need to review, validate, and perform coordination on lessons before they are shared with the rest of the organization.

# **Lessons Learned System Issues**

Though the benefits of lessons learned systems, and more generally, knowledge management systems, have been widely touted (e.g., Davenport, 1996; Zack, 1999b), success is not guaranteed (Snider, Barrett & Tenkasi, 2002). One of the most significant pitfalls, according to Davenport (1996), is the "If you build it, they will come" fallacy.

That is, merely implementing a lessons learned system doesn't ensure that members of an organization will use it, either to generate lessons or to seek out those learned by others. Reasons for such lack of use are usually attributable to issues of motivation or organizational culture. Individuals may have little time to devote to writing lessons after a learning experience, or perhaps they feel unwilling to acknowledge that problems have occurred. Others who are facing new situations may be unwilling to seek out lessons learned by others if they feel their problem is unique and not amenable to solution by past methods. Such participation issues might be addressed through a "championing" of the lessons learned system by the organization's leaders or through rewards and incentives designed to encourage and institutionalize use of the system (Fulmer, 1999).

The effectiveness of a lessons learned system might also be affected by the substance of lessons, particularly if handling is not rigorous. Individuals may generate lessons containing problematic information such as unsubstantiated opinions, controversial findings, or self-serving claims, to name but a few. They may be poorly written, perhaps with little background or context that would allow others to judge its wider application, or with too much detail that bores or confuses readers. Such problems point out the need for some degree of rigor in handling. Of course, too much rigor in handling may suppress participation.

#### THE CASE METHOD OF TEACHING

One early proponent of the case study teaching approach<sup>1</sup> described it as "the practical application of the theory that the power of thinking and not the acquisition of facts is the ultimate of our educational ideals" (Dewing, 1954, p. 3). The case method came to prominence in the U.S. at Harvard Business School with the realization, during the early twentieth century, of the "almost infinite complexity of modern business problems [and] the hopelessness of reaching a definite and unequivocal solution" (p. 4). Another Harvard professor described the early case method in this way:

A case is a record of a business issue which *actually* has been faced by business executives together with surrounding facts, opinions, and prejudices upon which executive decisions had to depend...These...are presented to students for considered analysis, open discussion, and final decision as to the type of

action which should be taken....[S]tudents are not given general theories or hypotheses to criticize. Rather they are given specific facts, the raw materials, out of which decisions have to be reached in life and from which they can realistically and usefully draw conclusions (Gragg, 1954, pp. 6-7).

The development of the case method coincided roughly with the development of pragmatism and, like lessons learned systems, its conceptual foundations were related to pragmatism. The case method reflected the pragmatist's view of experience as continually evolving; it thus also reflected an impatience with the idea of immutable truths or fixed principles. Knowledge was pluralistic and experimental, obtained through a constant process of encountering and attempting to resolve problematical situations. The pragmatic idea of "theory" meant a hypothesis to be tested in action; thus pragmatism allowed no separation between theory and practice. Learning occurred from experience rather than from sterile intellectualizing. Case studies represented an effort to allow students to experience—albeit vicariously in a classroom setting—the "real world" of complex business problems and thereby to learn, not what to think, but rather how to think in future similar situations.

Case studies emerged in American public administration educational programs during the middle of the century, and Stein's (1952) edited volume is probably the best-known early compilation of public administration cases. Stein's intent was to show an administrative problem "in its particular institutional context [and] to evoke a discussion of solutions that are possible, likely, and appropriate in that particular environment" (1952, p. 6).

The case method has since become a well-established means for teaching throughout the social sciences and professional fields of study. Several repositories of cases exist; in the U.S these include Harvard's Business School cases, the Case Program at Harvard's Kennedy School of Government, and the University of Washington-sponsored "Electronic Hallway." The case method itself has become an object of substantial research interest, as evidenced by academic associations (e.g., the North American Case Research Association) sponsoring scholarly journals (the Case Research Journal), conferences, and case writing workshops.

#### **Uses of Case Studies**

Cases may be used to advance a number of educational objectives, and the specific form and content of a case will depend upon an

instructor's objectives. Reynolds (1978) has developed a model (see Table 2) that relates teaching objectives to types of case best suited to accomplish those objectives. This model portrays a hierarchy from basic objectives such as "developing concepts" and "understanding

TABLE 2
Case Characteristics and Educational Objectives

	Teaching	Case	Data	Analytical	Value
Category	Objective	Description	Dimensions	Methods	Dimensions
II	Develop	Exposition of	Facts	"Worked-out	Objective
	concepts	problem in	clustered to	example"	function
	1	business	highlight	1	made explicit
III	Understand	Problemette	cause and		•
	techniques		effect		
	-		relationships		
IV	Acquire skill	Short, realistic	Relevant facts	Method	Value system
	in use of	business	not clustered	signaled but	clear (usually
	technique	problem,	to attach	not worked	profit
		structured	meaning	out	oriented), but
V	Acquire skill	Complex,	Added facts,	No clear	objective
	in analysis of	unstructured	mainly within	signals	function
	business	slice of life	one value	regarding	open for
	problems		system, but	methods;	choice by
VI	Acquire skill	Problem with	amenable to	analytical	student
	in action	clear	more than one	techniques	
	plan	emphasis on	method	open to	
	synthesis	action		students'	
VII	Develop	V, VI, VII	More facts	choice,	Choice of
	useful	emphasizing	(including	include	value
	attitudes	key	seemingly	mixed and	systems left
		executives	irrelevant	sequential	open to
	<b>D</b> 1		facts) related	analysis	student
VIII	Develop	Complex,	to more than	No known	
	mature	realistic,	one value	satisfactory	
	judgment,	unstructured	system; heavy	technique	
	wisdom	problem	use of		
			opinions of		
			case		
			characters		

Source: Reynolds (1978).

techniques"—both of which may be supported by relatively simple and straightforward cases—to objectives such as developing attitudes and judgment, which are better supported by very complex and problematical cases.

Naumes and Naumes (1999, pp. 28-32) group Reynolds' seven case types according to three categories. *Descriptive* cases (Reynolds' levels II and III) either illustrate concepts for students or require them to apply concepts, objectives usually associated with introductory academic courses. Descriptive cases often appear as illustrations in introductory textbooks and also as application exercises at the end of chapters. *Evaluative* cases (levels IV and V) call for more sophisticated application of concepts in terms of analysis, explanation, and evaluation of events. These objectives correspond to those of intermediate level academic courses. *Decision focus* cases (levels VI-VIII) differ from the previous two types in that they involve complex and problematical situations that have not yet been resolved. It is left to the student to develop recommendations for action based on consideration and synthesis of a multitude of factors. Such objectives are usually pursued in advanced academic courses and seminars.

# The Need for Cases

The preceding discussion indicates several potential challenges regarding the effectiveness and vitality of the case approach in public procurement. First, public procurement needs cases in each of the diverse areas and topics—requirement development, resourcing, the various steps and phases of the procurement process (McCue & Gianakis, 2001, p. 77), ethics, politics, to name but a few—that make up our field of study. Further, public procurement needs different levels of cases (i.e., descriptive, evaluative, and decision focus) in order to accomplish educational objectives in each of these areas. To take resource management as an example, cases might range from those that illustrate basic budgeting and financial management concepts to those that place a student in the position of developing, justifying, or reviewing budget requests for large and controversial procurement actions.

Finally, public procurement needs a continual infusion of new cases that describe evolving public procurement practices. If indeed the pragmatic view of knowledge is valid, then regular new descriptions of contemporary experiences are needed for the continuing development of public procurement theory (Bellavita, 1990).

#### LESSONS AS CASES

To this point, this paper has touched on lessons learned systems in public agencies, case studies in teaching public procurement, and some issues associated with each topic. It should be clear that lessons have the potential to be used as cases. Both cases and lessons are narrative descriptions of events, which are intended for learning purposes. The narratives of most existing lessons probably correspond most closely to descriptive and evaluative cases, since they describe events that have already occurred. Clearly, though, such lessons could be adapted and rewritten to serve as decision focus cases.

#### The Role of the In-Service Student

One apparent difference between a case and a lesson lies in their respective purposes. A teaching case is written by a scholar for students in a classroom setting, while a lesson is usually written by a practitioner for other practitioners in an agency setting. A common element is the student who is also a practitioner—the in-service student.

The in-service student has been the subject of some research interest, especially from the standpoint of alternative learning styles and their impact in education (Durant, 1990; White, 2000). In general, in-service students benefit from an androgogical approach (Knowles, 1980) that incorporates their prior experiences in problem-centered courses and exercises, such as case studies, rather than a pedagogical approach that emphasizes subject matter. Androgogy removes the teacher from the role of "sage on the stage" and allows the student greater control over the method of learning.

Encouraging or requiring in-service students to participate actively in lessons learned systems as part of a training or educational program constitutes one androgogical approach in teaching public procurement. These systems provide in-service students with the opportunity to connect and meld the theory of the classroom with their own experiences and the practical concerns of public procurement agencies.

Few would doubt that a substantial number – perhaps a majority – of students in public procurement training and education programs are inservice students. These students thus represent a potentially rich source of case studies, to the extent that their participation in agency lessons learned systems is encouraged.

### **Benefits and Challenges**

Public procurement teachers, agencies, and in-service students could benefit from this approach. Educators would obtain valuable teaching resources in the cases' description of procurement experiences. Agencies that operate lessons learned systems would see participation in those systems increase, along with a rise in the quality of lesson submissions. Students would experience enhanced connections between their learning in the classroom and their learning on the job.

Teachers could promote participation in a variety of ways, such as requiring students to access lessons learned systems, search for, and catalog lessons that illustrate and explain course concepts, to write such lessons, or perhaps to perform additional research to transform a lesson into a decision focus case. The guidance of teachers in the lesson-case writing process could help avoid some of the problems with lesson writing and handling mentioned earlier.

The realization of these benefits obviously would require participation from both public procurement agencies and providers of procurement training and education. Specifically, agencies would have to champion the use of lessons learned systems and devote sufficient organizational resources to their operation and maintenance, in addition to providing in-service students for training and educational programs. Teachers of public procurement would have to give the case method a prominent place in their courses. Additionally, they would have to establish connections with agencies that operate lessons learned systems in order to ensure access to those systems and to ensure that their educational efforts appropriately support the systems' purposes and functions.

# CONCLUSION: IMPLICATIONS FOR THEORY AND PRACTICE

The rise of the so-called "theory-practice gap" in the social sciences in the early to middle 1900s is well documented (see for example Snider (1998); also King (1998), White (1998), and other papers in a symposium on this topic in *Administrative Theory & Praxis*). Most interpreters agree that a principal contributor to this gap was the academy's overweening emphasis on positivistic behavioral approaches to theory building, which served to disconnect research from the

complex realities of administrative experience. The artificial separation of facts and values in the thought of Herbert Simon (1947) is but one notable example. The pragmatist philosopher John Dewey strongly criticized and opposed this trend:

[When] theory withdraws from consideration of the basic interests, concerns, and actively moving aims of a human culture on the grounds that "values" are involved, and that inquiry as "scientific" has nothing to do with values, the inevitable consequence is that inquiry in the human area is confined to what is superficial and comparatively trivial, no matter what its parade of technical skill. (in Depew, 1995, p. 116)

Similarly, Dwight Waldo (1984, p. 202) criticized much of the administrative research in the 1930s and 1940s as "tedious elaboration[s] of the insignificant." The aforementioned Inter-University Case Program (Stein, 1952) attempted to correct this condition in American public administration by promoting the case method to reconnect inquiry and administrative practice. In the judgment of many observers, however, the theory-practice gap remains a problematic feature in contemporary social sciences.

Public procurement is a relatively new field of scholarship with little underlying theory apart from that of its various reference disciplines. As interest in the field inevitably grows, so will the amount of research into its many facets. At this early stage of development, public procurement's intellectual leaders have an opportunity to shape the future trajectory of its scholarship and inquiry. An appropriate emphasis on the case method, facilitated by agency lessons learned systems, can help the field avoid the mistakes of others by ensuring that its theory remains firmly grounded in procurement practice.

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#### NOTES

1. The case study method is also of course an important research methodology (Yin, 2002) and has been effectively employed in public procurement research (see for example Knight *et al.*, 2003; 2007). As such, it generally falls under the purview of academic researchers. Here, however, I am principally interested in the inservice public procurement student as a nexus between theory and practice; hence my focus on the case method of teaching.

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