Learning Histories: Using Documentation to Assess and Facilitate Organizational Learning

George Roth

November 26, 1996 SWP# 3968

Learning Histories: Using documentation to assess and facilitate organizational learning.[†]

Abstract

"Learning Histories" are used in action research projects to enhance organizations' learning capabilities. The approach documents change as it facilitates individual and organizational reflection. Findings and progress in creating learning histories, as well as questions and issues regarding their future use in system-wide learning efforts, are described.

George L. Roth
Center for Organizational Learning
Sloan School of Management
30 Memorial Drive
Cambridge, Ma. 02142
tel. 617/253-8407
fax. 617/252-1998
email: groth@mit.edu

January 26, 1996
revised May 3, 1996

[†] The author acknowledges the support of Sloan School of Management Organizational Studies Department faculty, the MIT Center for Organizational Learning staff, and people from the Center's member companies for opportunities to develop the learning history concept in conducting research at learning projects. In addition, the members of the Learning History Pioneers group, too many to list here individually, have made numerous contributions to the ideas and practices for moving learning history projects forward. In addition, the working relationship with Art Kleiner, whose ideas have melded with many of mine, has contributed so much that to claim responsibility for the origin of particular ideas is neither possible nor fruitful.

Introduction

Learning was explicitly proposed as an organizational process to be exploited and studied over twenty years ago (Cangelosi and Dill, 1965; Micheal, 1973; Argyris and Schön, 1978; Revans, 1966). Today, the concept of organizational learning is particularly popular. After all, what manager would not claim to be interested in improving the ability of their organization to learn and become more effective? The number of popular business press articles, book sales, and packed conference and workshops are all evidence of high interest on the part of managers. Academics have also shown interest in the subject as demonstrated by the number of books, special journal editions, conferences and journal articles on the subject. To date, nearly one hundred books and journal articles on organizational learning have been published, almost sixty percent of them in the last three years (DiBella, 1994).

The concept of organizational learning is as elusive as it is popular. There is no consistent definition, and some definitions are so broad that they include virtually everything. Consider, on a practical level, how an organization could reliably improve without learning something new. Even publications on organizational learning do not share common definitions or assumptions for the nature of organizations. They also do not share theoretical propositions for how learning takes place, or how learning might - or should - be produced. A workshop in February of 1996 by ASTD, to assess the survey instruments developed to date that measure organizational learning, found very different definitions for organizations and emphasis on different concepts (DiBella, personal communication). In addition, regardless of definition or approach, the learning organization concepts promoted to date have been largely philosophical or metaphorical. Few, if any, examples of learning organizations have been well documented.

The gap between concept and empirical observations of learning in organizations can partly be explained by examining the issues associated with the measurement, assessment and evaluation of learning. How can learning be assessed without a link to some specific performance objectives? In light of the unique contextual and contingent nature of organizational conditions and their relationship to performance, how appropriate is it to use predetermined categories for measurement? Do existing measurement and assessment approaches fit with the concepts, objectives, and outcomes proposed under various definitions of organizational learning? Does, as Garvin (1993:89) proposes, the maxim "if you can't measure it, you can't manage it" apply equally to learning initiatives as to other corporate improvement programs? What demands in organizations lead to pressures for assessment and how do those pressures influence the phenomena they are intended to measure? If there are limitations in applying traditional evaluation approaches to organizational learning, what are alternative techniques?

Documentation of learning in organizations

In order for learning to be understood in organizations, *what happens* as organizations learn needs to be described and documented first. Description and documentation of what happens allows researchers to carefully consider the categories by which they conceptually examine organizational learning. The questions of *how* learning happens, and *why* it happens in particular settings, can be developed after some empirical evidence of what learning did or did not take place is in place.

This paper proposes the documentation characteristics which would describe learning that takes place in organizations, and be useful for developing concepts and categories by which the phenomena of learning in organizations could be more quantitatively studied. The ability to document or describe any process in organizations requires a methodological and theoretical focus. For the purposes of capturing learning in organizations, this focus requires both cognitive (what people are thinking and in what ways their thinking changes) and behavioral (what people are doing and in what ways their actions change) data. Learning, broadly defined, includes what actions have taken place, how actions have changed, what thinking has informed action, and how thinking has changed. Documentation of learning processes in organizations requires descriptions of activities and of reasoning.

The efforts to capture and document learning described in this paper used techniques through which both descriptions of activities and reasoning are elicited and captured. The research took place in a series of projects undertaken with companies interested in improving their own organizational learning capabilities (Roth and Senge, 1996). The companies in these projects have applied a series of "disciplines" (Senge, 1990; Senge, et al, 1995) to increase their abilities to improve by enhancing their learning capabilities. These organizations were undertaking explicit improvement efforts to facilitate their learning, and thus were relatively open and interested in a methodology which captured their efforts and helped them assess their progress.[1]

The need to work with companies to document their learning process required developing a way to communicate the tenets and premises of the research process. The term "learning history" was chosen to describe the approach and set of techniques for eliciting, capturing, documenting

---

[1] One definition of organizational learning, from Senge (1990), proposes that it is a process by which a firm and its people develop their capabilities to create a desired future. This definition was developed through cumulative insights that came from years of systems dynamics in improving organization's decision-making processes. This way of defining and promoting organizational learning has particular implications. It implies that goals are developed and shared, that a reliable and replicable process can be created to attain goals, and that a feedback system can be devised that produces valid information to evaluate progress and attainment of goals. This definition

and communicating learning in organizations. The learning history efforts to date have focused on the methodology for capturing and documenting learning and change initiatives (Roth and Kleiner, 1995). As these efforts have progressed, a new set of questions have emerged about the ability of learning histories to facilitate assessment and transfer learning. This paper describes what has been found to be effective in capturing, documenting and communicating learning. Further research efforts are underway to systematically test the ways in which learning histories facilitate the transfers of learning across groups and organizations. "The Learning Initiative at the AutoCo Epsilon Program, 1991-1994" (Roth and Kleiner, 1996), provides a context for describing what were found to be the essential characteristics for an effective learning history.

A Learning History Example

A learning history process emphasizes capturing and reporting "noticeable results." "Noticeable results" are a connection to the performance implication of learning. When an organization achieves something that meets or exceeds expectations - improving business results, implementing policy changes, altering behavior patterns and so on - that is evidence of important change.

The learning history used to illustrate concepts presented in this paper, "The Learning Initiative at the AutoCo Epsilon Program, 1991-1994" (Roth and Kleiner, 1996) provides an example of how performance measures are used. When AutoCo began production of the new model Epsilon automobiles, there was evidence of improved performance in product development when manufacturing movedthe Job 1 date <u>forward</u> by one week. The program did not have the chaos and pandemonium of last minute production changes typical of new vehicle launches. Reports of parts availability and parts quality for different prototype builds, determined by using the same measurements across different vehicle development efforts, showed record company performance. Final vehicle quality ratings, conducted by an independent assessment agency, showed a significant (30%) decrease in reported problems ("things gone wrong") and an increase (13%) in customer satisfaction ("things gone right"). American automotive managers perceive that launching new vehicles in a "non-event" manner is typical for Japanese companies, yet difficult to achieve for domestic manufacturers (Kim, 1993). The Epsilon program managers attributed their performance (success in launching the car and meeting or exceeding all their product development goals), to the learning process consulting and training activities they developed and supported for the engineering teams who were designing Epsilon and its sub-assemblies (Roth, 1996).

---

is consistent with the requirement to capture both collective action and reasoning processes in documenting organizational learning.

The learning history effort of the Epsilon project started nearly a year before vehicle launch and took place *as* the vehicle was being developed. The learning process consulting and training activities, based on premises for how to improve organizational learning (Senge, 1990; Senge, et al, 1994), had begun earlier — three years before the scheduled vehicle launch. As ideas for applying learning techniques were practiced by managers and researchers, what was done and what people said they thought was documented (Kim, 1993; Giancola, 1992; Roberts, 1992). The field project with the Epsilon team was designed to be an ongoing process that encouraged learning by research and managers, embodying all major components of an action research project.[1]

The written materials which came from the learning initiatives that were part of the Epsilon project, however, were either very conceptual (as is required for publication as academic research) or managerial (management memorandums and project reports). When researchers and other groups within AutoCo inquired about the learning initiative — how results were achieved and how to replicate and improve upon the Epsilon teams' efforts — the available information was found to be insufficient. The situation is not atypical of action research projects. It is difficult for leaders of the research and consulting activities to document their efforts, and it is often difficult to abstract meaningful general insights from the idiosyncrasies of particular settings. The "learning history" process was developed in response to the difficulties encountered with traditional project documentation and research oriented papers. The issues of project documentation at AutoCo were similar to problems encountered at several other field projects where learning techniques were being taught (and studied) in helping organizations develop capabilities to improve their business performance.[2] The "learning history" approach was developed with the purpose of documenting action research projects such that data across projects could be compared to develop more general knowledge about the application of learning techniques in business organizations.

Learning History Process

A Learning History is an approach which 1) applies the assessment of an organizational change initiative through 2) an effort to develop the capability of the people in the change process to evaluate their program and its progress, in the service of 3) creating materials that will help to

---

[1] For a description of field research projects in organizational learning see Roth and Senge (1996). Argyris, Putnam and Smith (1985: 8-9) define the components of action research to include: 1) the learning project was designed with company partners; 2) a learning cycle was used in planning research and project activities; 3) tools and techniques for thinking and learning were taught; 4) learning and development were promoted by building capacities of people in the organization; and 5) new theories, methods, and tools for learning were tested while seeking to improve business results.

diffuse their learning to other interested parties. In combining these three elements of learning history work, we create a feedback cycle at an organizational level. Assessment to capability-development to evaluation and back to assessment becomes a process of organizational reflection that leads to the development of actionable knowledge (Argyris, 1993). Actionable knowledge, in this context, represents both the "know-how" and "know why" that guides people's actions so that they can consistently produce the results they set out to achieve.

Learning histories are a formalized approach for capturing and presenting learning processes in organizations. Over the course of conducting learning histories in business organizations, the following seven stage process has helped create a feedback cycle that encourages reflection on both the change initiative being studied and the specific application of the learning history process in that organization.

- First, a planning stage delineates the range and scope of the document as well as the audience which is seeking to learn from the organization's experience. The noticeable results of the improvement effort are specified in the planning stage. Linking noticeable results with an improvement effort becomes an area of inquiry for the subsequent reflective conversation interviews. Including people in the planning process develops a capacity in the organization being studied to plan and conduct descriptive evaluations.

- Second, there are a series of retrospective, reflective conversational interviews with participants in a learning effort (along with key outsiders), taking pains to gather perspective from every significant point of view. The interviewing process itself develops the skill for reflective conversations and the benefits that can provide for the organization.

- Third, a small group of internal staff members and outsider learning historians "distills" the raw material (from reflective conversation interviews, documents, observations, and so on) into a coherent set of themes with relevance for those seeking to learn from the effort. This analytic effort, based on techniques of qualitative data analysis and the development of grounded theory, builds capacity for making sense of and evaluating improvement efforts.

- Fourth, a document is written based on a thematic orientation, which includes extensive use of edited narrative from interviews. These quotes are fact-checked with participants before they are distributed in any written material (even though they are anonymous in all drafts). The writing and fact-checking process continues to build the capacity of people in the organization to describe and present its improvement process, and in the course of checking facts and themes, provides an additional opportunity for reflection.

- Fifth, a small key group of managers, participants in the original effort and others interested in learning from their efforts, attend a validation workshop after reading the learning history prototype. This validation workshop allows

[2] Field projects promoting learning techniques in organizations took place at two other vehicle manufacturing companies, an electronic components manufacturer, two different semiconductor manufacturing firms, a telecommunications company, a transportation services company, and two telecommunication companies.

those that participated in the improvement effort to reflect on and review for accuracy the material and their presentation in the learning history, as well as observe how others respond to the formal description of their efforts.

- Sixth, the learning history document becomes the basis for a series of dissemination workshops. In the dissemination workshops people throughout the company consider the questions: What has the company learned so far from this program? How do we judge its success (or lack of success)? And how do we, and how does the company, build on what can be learned to best move forward in other initiatives?
- Seventh, after a series of dissemination workshops, we conduct a review of the learning history effort itself, gathering data on the influence the learning history data gathering, analysis, writing, validation and dissemination process had in other improvement efforts. In this review, the people in the organization develop their abilities to conduct learning history efforts and consider how future efforts can improve upon and adapt a learning history process for their own specific needs.

In the process of creating a learning history, researchers seek to help participants assess and evaluate their efforts. Participants' assessments and evaluations of learning efforts are developed by conducting reflective interview conversations. In individual and group interviews the learning historian asks participants to describe what has been accomplished and consider what role they and others had in those and other achievements. These interviews are recorded so that participants' narrative can be later used as the data for documenting the learning process.

The learning history interviews, the primary method for data collection, draw upon techniques from ethnography (Spradley, 1979; Sanday, 1979; Van Maanen, 1979), and oral history (Yow, 1994) and action research, learning and process consultation (Argyris, Putnam and Smith, 1985; Argyris, 1990; Schein, 1987) in promoting reflection and inquiry. Ethnography provides the science and art of cultural investigation—the systematic approach of participant observation, interviewing, and archival research. The tradition of oral historians provides for a comfortable process honoring the story of the narrator. Oral history is a rich data collection method providing natural descriptions of complex events in the voice of a participating narrator. Action research adds focused inquiry skills and effective methods for developing people's capacities to reflect upon and assess the results of their efforts. The transcripts from the reflective conversational interviews, along with other materials, create a rich database which must then be distilled into a coherent document.

The analysis of data from interviews, observation, and written documents follows from traditional qualitative data analysis processes (Strauss, 1987; Corbin and Strauss, 1990; Miles and Huberman, 1994). An emphasis of the analysis process is to develop grounded theory (Glaser and Strauss, 1967) from what people said happened and the issues which faced them and their organization. These "grounded theories" are the themes around which the written documents are organized. The themes describe at an abstract level what were important factors in the learning process, and what thinking and actions complemented or conflicted with what was typically thought or done in the organization. The themes communicate the knowledge that is newly developed through a change effort.

Most organizations can easily reflect on "know-how." But what about "know-why?" To communicate this type of knowledge, which contains knowledge of values, identity, "who we are," "how we do things," and "what mistakes we've made," requires a sophisticated approach which involves numerous people in sense-making. Through the learning history work three separate qualities of an organization's experience have been found that need to be combined to produce self-knowledge: The analysis and logical study of results and their causes; the emotional and subjective connection with organization members' needs; and the archetypal recounting of the organization's heroism, trials, and destiny.

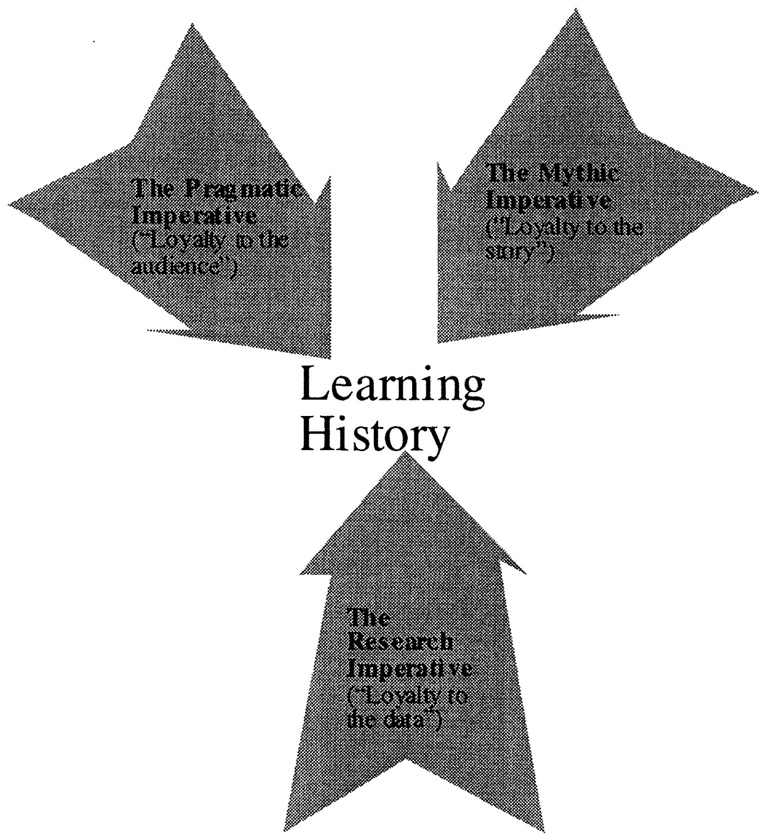


Figure 1. Imperative in Learning History Approach

To elicit, capture, document and disseminate materials that are meaningful in an organization's experience, it is helpful to think in terms of meeting three "imperatives"— the research, the mythic and the pragmatic imperative. Each imperatives is a set of loyalties. They each represent "pure" considerations which are in constant contention. Each is equally important, and yet their contending nature suggests that they can't be approached simultaneously. They are attended to sequentially and individually, yet balanced and considered simultaneously, in every phase of a learning history effort. The three imperatives start in the process of setting up a project and conducting interviews to writing and disseminating a learning history. They are particularly useful considerations for making decisions in the analysis and writing process.

The research imperative suggests loyalty is to data and a commitment to search out and tell the truth. Loyalty is to data, not financial, political, or personal implications of findings. Following accepted research methods guides the systematic and credible data collection processes that are followed. Information is collected from broad sources, using multiple methods, and based on multiple data types. In developing a written description and a reliable form for reporting findings, the research imperative requires respondent's narratives be grounded in facts and observations.

A learning history is written work with artistic imperatives. The stories it tells often have an archetypal character. Writing under a mythic imperative, the "pure" story is written without concern for who will be affected, as if the work were going into a time capsule. The mythic imperative requires that the writing speak boldly. It is through the mythic imperative that a compelling story emerges. Without a mythic component, a story may not emerge, the writing may be flat and without the power to compel and or be read. If readers have to tease the myth out of the story themselves they will not be drawn in. They will not recognize the universal qualities that link the story to the human condition. Most descriptions of organizations and typical reports are "mythically deprived." Part of the goal of the learning history is to help an organization develop a capacity to hear the mythic in its own stories.

A pragmatic imperative considers how the learning history can be useful. How can a learning history be designed and formatted so that the people who are written about accept it — but not simply respond complacently? How can the history help an organization grow in a beneficial way? How will it meet an audience's potential needs? How must it be written for particular audiences? The pragmatic imperative calls attention to the way information is presented so that the learning teams' experience, messages and reflections will be useful and valuable for a more general audience's learning. No matter what people think of a particular thematic organization, if it totally offends or mystifies, it willdo no good. The learning history, as a document and as an intervention, is best evaluated by the abilities of an organization to hear its message.

Each element in a learning history process—interviewing, observing, analyzing, writing, editing, circulating drafts, following up and conducting dissemination workshops—is intended to broaden and deepen learning throughout the organization by providing a forum for reflecting on learning and substantiating results. The learning history process can be beneficial not only for the original participants, but also for researchers and consultants who advised them, and ultimately for anyone who is interested in organizations' learning processes.

Learning History Content

A learning history includes not just descriptions of actions and results, but also underlying assumptions and reactions of a variety of people (including people who did not support the effort). No individual view, not even that of top managers, can encompass more than a fraction of what actually happens in a real organization. The different views are reflected in the learning history. Participants reading a history should find their own points of view treated fairly and find other people's perspectives, including contending ones, all treated with equal respect.

An example from AutoCo illustrates using the research, mythic and pragmatic imperatives to create one of the themes in the learning history. One of the factors which contributed to the success of the team was the development of an additional prototype model, a "harmony buck." On the surface, the achievement was a matter of pure engineering. It was a technical and financial decision to build a new kind of prototype, where the impact of that prototype could be quantified in terms of an estimated dollar savings (estimated at $65 M in avoided rework costs). What were causal factors in achieving these savings? According to the core team managers, a new prototype would never have been considered, or supported, without the skill development and conducive learning conditions that were created through the learning effort. Some team members learned new skills to communicate effectively with outside contractors (who were architects of the prototype), while others gained the confidence to request the additional budget for a prototype that would be continually updated. Still others learned to engage with other engineers across functional boundaries to make the prototype work. Until the stories of these half-dozen teams were brought together, they were not aware of common causes or each others' contributions, and many others in the company were unaware of the entire process.

The learning history thus reported a "noticeable result"—the new prototype saved millions of dollars in rework costs—but simply reporting a recipe for constructing new prototypes would only be of limited value. At best, it would help other teams mimic the original, and it would not help them learn to create their own innovations. The harmony buck innovation was part of a broader theme of combining engineering innovation with human relations, an approach which encouraged people to apply technical ideas effectively. These themes took on life and meaning by having a conceptual point illustrated through the stories which people told about what they did, and what factor their thinking and actions played in the overall achievements. Stories told by the people involved described intangibles, such as creating an atmosphere of open inquiry, and conveyed a knowledge necessary for new teams to initiate their own learning cycle.[1]

Basic characteristics of a learning history

Examination of organizational studies research finds that literary approaches, including discourse, story and metaphor analysis, have recently been gaining increased attention (O'Conner, 1994). Learning histories fall broadly into this domain. The test and use of learning histories comes through action research — using what is known about research and writing processes to create documents that seek to facilitate learning and change. From a linguistic perspective, the documentation of case studies forms a "series of emerging constructions of reality" (Kanter, 1983: 288) and serves as a form of "social memory" (Deetz, 1992: 309). The learning history, created through a process which encourages learning, results in a document which captures those reflections along with event descriptions. When used as the text from which others seek to learn, the document provides an artifact of thinking and behavior which can be interpreted by other groups. The use of the learning history is then aligned with other efforts where the interpretation of texts on organizations has helped managers recognize the assumptions that influence culture, strategy and structure (Kets de Vries and Miller, 1987: 214).

As a process for documenting efforts which seek to transfer learning, critical elements of the learning history process make it different from reports and other forms of documentation. Over the course of three years, different forms of "learning history" have been proposed, and quite a few of these have been tested. A number of researchers and consultants have begun to include "learning history work" in their practices, and in many cases, their work fails to conform to the essential characteristics of a "learning history." Yet, these people report that their clients have been enthusiastically appreciative.

---

[1] The six themes in the AutoCo learning history are "Hard results, soft concerns" (when managers paid attention to human issues like openness and fostering trust, would teams be able to produce better business results), "Setting an example of non-authoritarian leadership" (the philosophy which guided the changes were a non-authoritarian and participative approach to project leadership), "Learning labs: Teaching techniques for thinking differently" (as analytic tools provided techniques putting philosophy into action managers "taught their talk" in managerial practice field sessions for program engineers), "Combining engineering innovation with human relations: The Harmony Buck" (new technical ideas joined with a human relations approach that encourages people to apply the technical ideas effectively), "Partnerships" (functionally based people were drawn together in ways that bridged differences and focused on action with collaboration), "Process innovation in the context of a large organization" (how the process innovations in the team were brought into larger management forums and the various ways in which the larger AutoCo organization responded to the Epsilon team).

There are two reasons for carefully delineating what would and would not be a "learning history." First, based on the experiences and theories developed to date, some types of documents are better than others for collective reflection. To help in the development of knowledge about using documents in developing organizational reflection, a description of what has been found in "learning history" efforts can inform the decisions others make in using documents to promote organizational reflection. Second, in order to develop and determine the characteristics of documents which promote reflection, a clear and careful definition is needed to differentiate a learning histories from other from of documentation. As learning histories are studied for their abilities to promote learning in and across various organizations, the application of learning histories with similar characteristics, or reasons why particular characteristics varied, is necessary in comparing and accumulating findings across different settings.

To date, the best way of describing what makes a document a learning history is the adherence to a combination of nine characteristics that guide the process of data collection, analysis, and presentation. It is the combination of these nine characteristics that make a learning history a learning history. Each characteristic and its importance is reviewed in the sections that follow. The extent to which these characteristics have been met in different projects has influenced the quality of the learning history documentation and prevalence of learning history's later use. Experiences and outcomes from learning history projects are used to illustrate each characteristic.

Develop capabilities for self-evaluation, measurement and assessment

Any manager working to create a "learning organization" will sooner or later run up against a challenge of "proving" the value of what has been done. Researchers face the same question, "How do you prove what you hold to be true?" The general practice to evaluate efforts in business settings is some form of assessment. "Assessment," however, is a loaded term. People report palpable fear at the use of the term — the word itself draws forth a strong, gut-level memory of being evaluated and measured. Negative perceptions of being "assessed" result in defensive behaviors, which limit what can be said, what is heard, and what actions are possible. Defensive behaviors limit learning, and thus, assessment can defeat and limit learning.

1. Develop capabilities for self-evaluation, measurement and assessment
2. Use of "noticeable results"
3. Data generated through reflective conversations
4. Presented as jointly-told tales in multiple narratives
5. Using a two-column format
6. Developed by a team with insider/outsider members
7. Attribution, interpretation or generalization linked to description
8. Validated by participants and disseminated through workshops
9. Intended for audiences beyond original participants

Table 1. Essential Characteristics of a Learning History

A possible defeat of learning can be explained by tracing the meaning of the word "assess." The word derives from a Latin root, meaning to impose a tax, to set a rate or an amount. Assessment is a *process* of taking action to gather information on what has happened. Without some form of assessment, it is difficult to learn from experience, transfer learning, or help organizations replicate achievements. Assessing an organization's effort can impact its performance. How can assessment be used to provide guidance and support for improving performance, rather than to elicit fear, resentment, and resignation? One of the major questions in studying learning in business organizations is managers' requests and requirements for tangible, measurable evidence of an impact on their people's or organization's capabilities.[1]

---

[1] There is one noteworthy exception to this general phenomena of managers wanting tangible, measurable data about learning programs. In the company which is the exception, the effort was structured differently than in the other learning projects (as described in Roth and Senge, 1996). The learning initiatives at this company were established as broad capability development programs, where managers participated in four one-week training program, with homework assignments and weekly follow-up by program staff, for a period of nine months. In addition to having the program for the participants, a weekend program for participant's bosses and significant others in their personal lives was held to help answer questions and integrate new learning into their lives outside the workplace and the learning program. The top leadership of the company also participated is shorter workshops which exposed them to similar materials. This company has established a range for leadership programs which emphasize developing learning capabilities. In this company there have been fewer requests for measurement or demonstration of results. One explanation, given by program staff members, is that bosses are directly involved in selecting people for the program, they participate in workshops, are exposed to learning techniques and concepts, and have direct experience in observing the new behaviors and capabilities of participants. The instructor for the program

Experience has shown that distinguishing among assessment, measurement and evaluation is helpful in approaching people that are interviewed, particularly in responding to their questions about being assessed. Assessment is the activity which compares reality to expectations. In business contexts, assessment is the process of comparing what was achieved to what was expected, for example comparing the amount of money made by a new effort to what it was expected to make. By this definition, assessment is a fundamentally human activity. Where learning is concerned, the concept of assessment is a necessary process through which aspirations and expectations are compared to observed reality.

A problem occurs when "assessment" is equated with "measurement." The term "measure," whether a noun or a verb, implies quantities — determining the size, capacity, volume or extent of something, usually by comparison with a standard unit. The concept of measurement is based on being able to ascribe relevant quantitative dimensions to phenomena which can reliably or repeatedly be observed. The difficulty which measurement poses for learning in organizations can be illustrated by considering how businesses are measured. In business, accountants' measurements tell managers how the business performs. As Kofman (1994) points out, accounting is a form of language, and language determines what we perceive (Searle, 1969, 1995). The way in which corporations count "beans" indicate "what" is valued. The accounting system is often tied to rewards and determines what people pay attention to. Since learning may creatively expand peoples' perceptual horizons, what they "see" and what they do may then be outside of what can be perceived within the boundaries of an existing accounting system. A rigid measurement scheme, like that of financial accounting, might not value different outcomes and thus not recognize the effort associated with people's learning, or people may limit their learning in order to comply with the perceptions a measurement system enforces.

Measurement is the act of assigning dimensions to that which can be observed. Assigning "value" to measurements comes from evaluation, which derives from the Old French *evaluer,* "to value." Evaluation means to determine the worth of, to find the amount or value of, to appraise. People react most strongly to being evaluated, for often it is not clear who, or on what basis, value or worth is being determined, or what decisions and actions will follow on the basis of an evaluation.

A challenge in the learning history process is to develop a method of assessment which frees people from the tyranny of a predetermined measurement and evaluation scheme. The learning history process does not deny the value of measurement, or the existence of measurement

---

has also suggested that the criteria bosses consider in evaluating the program is their own experience participants' new capability in responding to challenging situations.

schemes in most organizations. Experience has shown that distinguishing between "assessment," "measurement" and "evaluation" puts people at ease in the reflective interview conversations, and helps them in seeking guidance and support for improving their performance. All three processes are made explicit: 1) *measurements* of significant improvements are examined by examining how and why the measurement systems were developed, and what impact the measurement system has on people's performance; 2) *assessments* provide information for an inquiry into the link between the assessment and the observable data; and 3) *evaluations* are examined by seeking to understand the reasoning process and context for the judgment.

In learning history projects measurement systems are made explicit by examining how they impact people and their learning in the service of a qualitative description. Any evaluation of measurements and other information comes from what sense people make of their own efforts. It is thus how *they* assess their efforts, what measurements they deem be important, and what evaluation they make of their performance that is important in capturing their story.

Use of "noticeable results"

If hard measures are not directly reported, skeptical business managers are not interested in hearing about organizational processes which illustrate learning, change and personal improvement. All learning initiatives have been associated with some significant events in the organizations — events which can be described in directly observable, measurable and tangible ways. The term that is used for those significant, observable and measurable events is "noticeable results."

A "noticeable result" in business settings has three characteristics. First it is an event which people in the organization consider significant. It is significant in that it is something which would not normally be expected, or achieved, in the routine course of business activities. The determination of significance derives from people within the organization. They can tell if what has happened can be explained in the normal course of business activity, or if what happened requires further explanation. Significant, in its typical use, means, "having or expressing meaning, full of meaning." In this same way, noticeable results are events which have meaning because they are beyond what is anticipated, expected or easily explained.

Secondly, noticeable results are "observable." Anyone at a particular place at a point in time would be able to witness a noticeable result. For example, in the vehicle development program one of the reporting mechanisms measured vehicle prototypes' quality. Using the quality reports anyone could look at the report and read the score the vehicle was given. The quality scores were "observable" through the reporting and measurement system. While people may argue whether the measurement or reporting system is valid, they would not dispute the score itself.

The final characteristic of a noticeable result is that it can somehow be "quantified." This consideration relates closely to the idea that it is observable. We seek noticeable results that are occurrences or events which be measured and whose measurement is quantifiable and independent of the person performing the measurement. The measurement associated with a noticeable result is itself secondary to the ability to measure which is made. The emphasis on "hard" characteristics of noticeable results, we have found, is extremely important in developing credibility in business settings. In many cases there is controversy around the achievement of learning and organizational development efforts, and when the descriptions of these efforts is made in abstract and subjective language it requires considerable interpretation on the part of the person making the claims.

What can not be claimed, in most cases, is that a noticeable result of a business unit is directly related to the learning effort. In fact, that relationship, if there is any, is what a learning history process investigates. There are many factors which can influence any noticeable result. Part of the question for people is what, if any, connection they make between a noticeable result and the various activities that took place during the time in which it was achieved. A learning history interview typically begins by reviewing a list of noticeable results. People are first asked to comment on the accuracy, significance, and completeness of the list. Examining noticeable results, and what caused them, brings the subjectivity of participants into play. In social settings it is not possible to prove what caused something, rather we accept proof of causality as coming from the disconfirmation of all plausible rival hypotheses. We never know definitively what caused something, so what we investigate is people's conceptions of causality, and the evidence they have for their beliefs. We accept people's particular notions of causality, no matter how far-flung, as valid in that they are based in their own perceptions, thoughts, experiences and action.

The use of "noticeable results" responds to managers' and researchers' expectations for measurement and evaluation. Noticeable results provide a jumping-off point for readers of a learning history. Events which are significant, observable and measurable provide substance and motivation for business readers. The curiosity which readers have to examine what happened and why prepares them to hear the different perspectives and explanations of participants.

Data generated through reflective conversations

How is data best captured on a change process, particularly one which is momentous in its approach and involvement of constituents? The ideas of clinical research interviews (Schein, 1987a) and creating reflective settings have guided the development of the learning history interview process. Often people who are leading and involved in change efforts do so in addition to other job responsibilities. People in business settings do not take the time nor find the settings in which they think through what they have set out to do, how expectations have been accomplished and/or shifted, and what has been learned. The time for a reflective interview conversation creates for the participant an opportunity for reflection. The researcher strives to develop a rapport with people that creates a relaxed and safe environment. These interview settings make it easier for people to be open and expressive about their experience, talk about their interpretations and explanations for what happened, and personally benefit from the time for reflection.

The researcher emphasizes asking people to "tell their story" of an organization's effort. A reflective interview conversation provides value by creating a setting where participants step outside the day-to-day demands and activities to talk and think about the change processes in general. Researchers are careful not to abruptly intrude into respondents' personal psychological domains. The process by which questions advance from exploratory to diagnosis to confrontation (Schein, 1987b:161) is carefully managed. An ideal interview conversation moves to progressively more personal domains as respondents initiate inquiry by asking for help or verbally sharing their experience and their own sense-making process. Given that learning history projects have been in settings where people are taught techniques to improve collective learning, interviewees have been receptive to reflection and inquiry into thinking and learning processes.

Presented as jointly-told tales in multiple narratives

How is what happened in a change effort communicated? There is no substitute for the description being presented in the words of participants. The manner in which people who were involved in change tell their story creates a rich, revealing, engaging and powerful text. Writing what happened in a change process as a detached researcher, or any other third party, deprives the account of the personal drama that brings to life mythic qualities and archetypal experiences which attract and holds readers' interests.

How is the narrative of participants best presented to readers? Relying solely on transcript text does not account for the role of the researchers in influencing what was said and what is presented. In Tales of the Field, Van Maanen (1988) describes a rare type of ethnographic writing. He refers to this writing as a "jointly told tale." In these tales, the subject and the writer interweave the story -- either through extensive use of quotes, often from the same person at various times in the story (Waiting, Crapanzano (1985) or through a give-and-take between quote and commentary (Contested Lives, Ginsburg (1989) or through a carefully edited narrative in which the writer is barely visible (Edie, Stein (1982).

A jointly told tale style of writing and presentation provided both an inspiration and a creative solution for how to let participant's narrative carry the description of events and include researcher comments. The researcher take responsibility for questions asked, analysis, synthesis and generalizability of the narrative comments. This commentary, however, often weighs down the telling of the tale. Or, if the researchers' commentary is not sufficiently visible to readers it leaves open questions of whether data has been selected to restrict the reader's opportunities for alternative interpretations. A jointly told tale style allows use of participants' narrative along with researcher comments.

Participants' narrative provides insight into how people construct meaning through the stories they tell. Examination of narrative, including discourse, story and metaphor analysis, has become a subject of increased importance in organizational studies (O'Conner, 1994). For any given narrative there are "always multiple basic stories that can be constructed in response to it" (Smith, 1981: 171). Narratives have a narrator, an audience, a relationship between the two, motives and background circumstances. In telling about organizational changes, people select from an infinite variety of possible descriptions. A narrative of what happened illustrates "a form of human comprehension that is productive of meaning by its imposition of a certain formal coherence on a virtual chaos of events" (White, 1981: 251). Thus, people's narrative is not neutral, "language does not present -- rather, it represents" (O'Conner, 1994: 31).

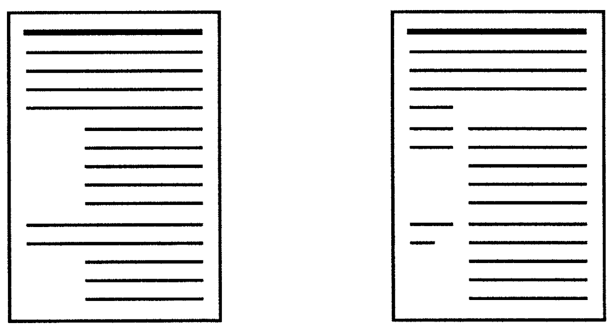
People in different parts of organizations develop local explanations. These descriptions, interpretations and explanations often become rigid and closed to outside inquiry. The way people interpret what happens influences what they notice, thus their mental map for making sense of the territory becomes confused with the territory itself (see defensive routines, Argyris, 1990). "When we forget the contingent nature of our understanding, who we are becomes our beliefs and views" (Senge, et al, 1994). Often, therefore, people feel as though they themselves are challenged when asked questions about their explanations. In presenting learning and change initiatives from multiple perspectives, a learning history can make visible to individuals what is collectively hidden. By reporting each perspective in a coherent and respectful way, readers see elements of their own thinking captured and compared alongside the thought processes of others who think differently.

In reporting multiple perspectives, often more questions are raised than are answers provided. A learning history can inspire its readers to inquire and reflect on their own certainty for causality and the basis for their actions. If a learning history does not coherently report a particular perspective, it is often an indication of a flawed investigation or presentation rather than people's incomplete or inconsistent views. One way to determine if a data collection effort is completed is the extent to which sufficient data for major alternative perspectives has been captured.

Using a two-column format

Using narrative simply for the sake of using narrative can make for a meandering, troubling and cumbersome text. Readers want to be told a succinct story. They want to be told what it means, what its implications are, and what they should do differently. As writers of learning histories, researchers need to account for their choices in asking questions, collecting, and selecting data. Readers should be told why particular quotes were chosen, how representative they were, and what interpretations and generalizations can be drawn from the narrative that is presented.

The typical way in which field research is written is in a staggered text format (see Figure 2). In a staggered format, the full column text is used for all context setting, exposition, description, interpretation and analysis. Quotes, in indented form, are provided as representative data that illustrates researchers' points. The full column text needs to carry the story and hold readers' interest.



Staggered Format **Two-column Format**

Figure 2. Two styles of formatting qualitative text

Learning histories use a two-column format. In this format a new type of text location is introduced — the left hand column — and other text format locations take on different functions. Full column text is used for context setting, exposition, and "setting up the telling of a story" that follows in a two-column form. At the end of the a two-column formatted section, full column text provides analysis, summary or implications of the stories. A left hand and right hand column format is used to keep authors' commentary separate from participants' narratives. The right hand column is exclusively for primary data — narrative from people involved in the change effort.[1] Other text in the right hand column includes written comments by people, sections of memos or

[1] To condense participants narrative into a well-rendered form, preserving the spirit of what they say, quotes are often edited. This editing requires an additional fact-checking stage. Each narrator reviews his or her own words before anyone else sees it. Fact-checking is also required to provide people the freedom to speak openly in interviews, knowing they will review and can rescind their comments before they are included in any document. For more information on how to conduct and write a learning history see Roth and Kleiner, 1995.

meeting transcripts, speech excerpts, or other forms of primary data. The left hand column is used by the authors to comment on the right hand column narrative. The left hand column comments include questions which people were asked, the assumptions, interpretations, attributions and generalizations researchers have for what is said, comments on how representative comments are, remarks which provide context or summary for what is said, and implications of particular statements. Figure 3 provides an illustration of the layout of an actual learning history page.

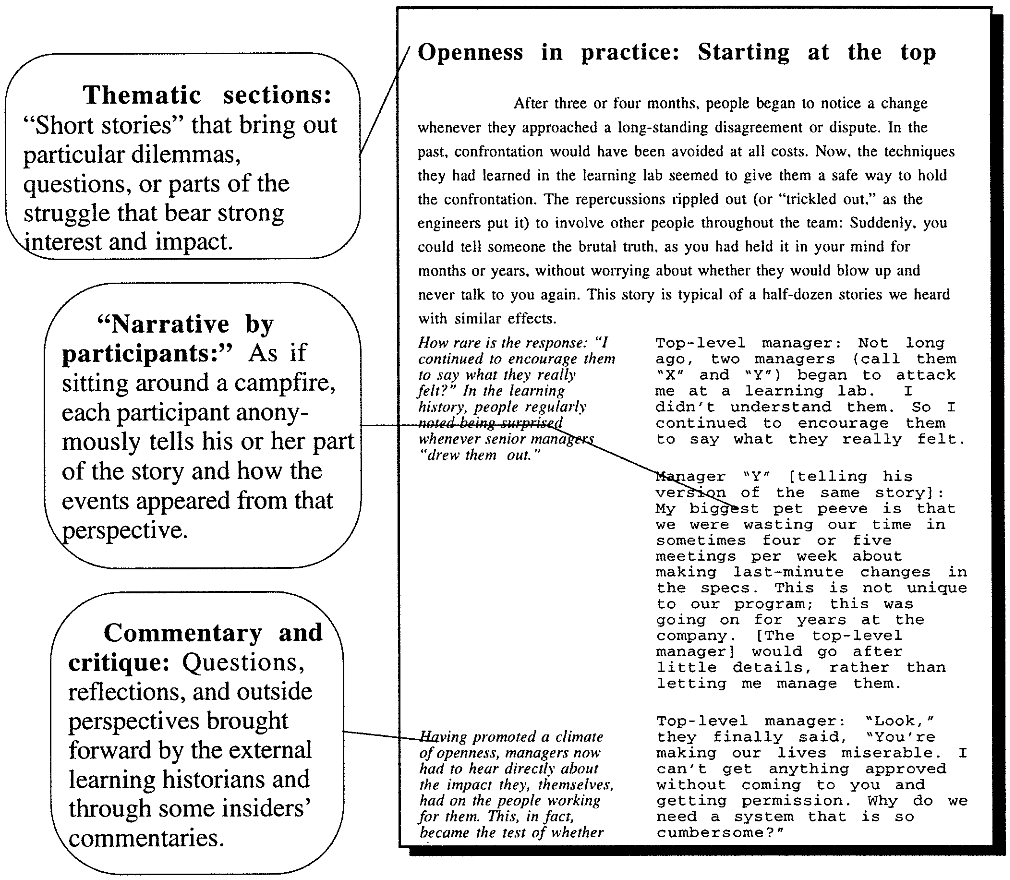


Figure 3. Example of Learning History Page Layout

Readers are often initially taken back by the two-column format. Their questions is, "What should I read first?" This question indicates that readers are required to be involved in a different way from what they are accustomed to in reading typical reports. Readers have to make choices, and can not simply follow what an author has written. As they decide what to read when, they exercise choice and become engaged in a different reading process. Readers are asked to pay attention to their reactions and expectations of what they read. They are asked to note their reactions by writing on the document — how the full column text sets context and background, how narrative in the right hand column tells the story, and how researchers' commentary — their questions, synthesis and generalizations — is reported in the left hand column.

In a two column format, jointly told tale, complexity can be expressed which is not found in traditionally formatted reports. The two columns distinguish between relatively "objective" comments by non-participants on the left, and relatively "experiential" comments by participants in the story on the right. The two column formatting creates a new requirement for reading, which will perhaps lead to new comprehension about complex learning and change efforts. This new and initially unfamiliar format provides the opportunity to "create a preferred use" for learning histories — documents that are read and discussed in particular ways so that collective sense-making and learning are encouraged.

Developed by a team with insider/outsider members

A learning history reflects multiple perspectives including those of outsiders and insiders. Like any research into culture, these two perspectives are necessary for determining meaning (Schein, 1985). Outsiders will notice the peculiar ways in which an organization operates, ways which go unnoticed and are taken for granted by insiders. Insiders, however, often do not notice how their espoused values or beliefs are different from what is practiced. People in organizations live with apparent discrepancies, and when they are revealed and probed into, deeper more basic assumptions which are tacit can be elucidated. While outsiders are likely to notice discrepancies, only insiders can provide an interpretation for discrepancies' significance and it's deeper meaning. A learning history effort requires a team with both outsider and insider membership.

There are also pragmatic reasons for insiders to be an integral part of the learning history team. As part of an effort to develop learning capabilities in organizations, companies also need to take responsibility for the researcher's role. The learning history becomes part of the institutional feedback mechanism, an element of an "infrastructure for learning" (Senge, 1994). If learning efforts expand, there will be a continual need for a people to teach others tools and methods for learning and reflecting on progress. As the formal learning initiatives spread, internal people who are trained and capable are needed to carry these efforts forward.

The concept of a "learning historian" was created to respond to companies' questions for how they learn from the projects they undertook. The staffing of a learning history effort includes internal people who develop their capabilities though formal training and work on the project. In large organizations, it may eventually be possible to develop skills and expertise so that internal company people can take on role of the "external" perspective. The ability of companies to become learning organizations will, in part, depend upon companies' own abilities to develop capacities to gather data that helps them reflect on their learning.

Attribution, interpretation or generalization linked to description

"The evaluations or judgments people make are not concrete or obvious. They are abstract and highly inferential. Individuals treat them as if they were concrete because they produce them so automatically that they do not even think that their judgments are highly inferential" (Argyris, 1990: 89). The thought processes and language through which people operate are central to Argyris' research on defensive reasoning and organizational learning. Simply asking people to "tell their story" would be problematic if what people said wasn't linked to specific events and generally observable information. Stories can take on an aura of gossip if they are not rooted in valid details.

The language people use to describe their world is itself a tool through which they describe their external reality as "out there" (Manturna and Varela, 1987). Language has a generative power in that what people articulate as what they "see" comes from language interacting with their direct experience. The language people use to describe learning and change experiences needs to be carefully investigated. A conceptual tool called "the ladder of inference" (Argyris, 1990) can be used to describe linguistic implications in articulating reasoning processes. The awareness of the reasoning process by researcher and respondent helps in the inquiry into what people observe (which others could observe as well), to the culturally understood meaning (what within a community of people is thought), to the specific meaning which people impose (the interpretations and implications), to the beliefs and assumptions people use to validate meaning and select what is important. The learning history, based on reflective interview conversations, reports people's description of what happened and their attributions, interpretations and generalizations.

The concept of a ladder of inference guides the inquiry process in the reflective interviews and thus the data that is surfaced and captured. Concepts from the ladder of inference also guide how narrative is presented. Through a two-column format, readers can follow the reasoning process of participants' narrative in the right hand column as well as the researcher's commentary in the left hand column. For readers, the learning history text becomes observable data from which they can learn. Although the narrative text includes people's attributions and generalizations, once they have been said and written down they are "observable" to learning history readers. When a team seeks to learn from a learning history, the reasoning process that is documented is kept separate from the reasoning process by which readers themselves make sense of the text. The learning history document provides materials for team discussion and is written to promote inquiry into the various ways readers think. Guidelines for facilitating learning history workshops have been developed that are effective in investigating readers' reasoning process and promoting their learning.

Validated by participants and disseminated through workshops

Learning histories should be judged by the quality of the conversation and action they provoke. Given an objective of transfering learning among teams, the quality of the conversation that is achieved by people who have read and discuss its contexts is a criteria by which to evaluate learning histories. In one sense the narrative in the right hand column, juxtaposition of multiple perspectives, and researchers' commentary in the left hand column is a model for a conversation that people could have with themselves. However, differences in understanding, gaps in skill and action priorities in business organizations make it difficult for people to learn to reflect in this manner.

The learning history is conceived not as an ends in itself but rather as a means toward better conversation. The creation of the learning history document is a time consuming undertaking, and its completion can easily become the overarching goals of those people producing it. As a only a part of an overall organizational improvement effort, a learning history process is a method that produces a new tool for collective reflection. The interviewing process creates opportunities for individual reflection, and thus is of potential value to participants. An essential condition for a learning history process to be effective is an openness on the part of the people and the organization to want to learn from change initiatives. Managers need to have the desire, be prepared, and be able to consider data about themselves that is reported back to them. Without a willingness to learn from their own data, the learning history, for the company studied, will fall on deaf ears. The same is true for any team reading another team's history. The learning history surfaces and reports compelling data about change and learning, and a team that uses it effectively needs to have developed appropriate attitudes and skills among its members to discuss the contents and their implications.

A learning history is meant to be read and discussed so that people learn from it. How readers make sense of text is important in considering how people learn from a learning history. Research in cognitive processes finds that human artifacts accommodate an indeterminacy of meanings (Lakoff and Johnson, 1980). Those multiple meanings are characteristics that allow for people's interpretative acts. Artifacts which are open to human interpretation include acts, objects, and language. In writing about learning processes, and seeking to use written words to help learn, the interpretative nature of meaning-making processes needs to be considered. Written language is only one aspect of the way in which the meaning created by teams can be conveyed.

While what is written seeks to convey certain information, the meaning derived from any text comes from its context and the interpretation of its readers. Reader-response theory is based on the understanding that the meaning of text resides in neither text alone nor in the author's intentions

(Iser, 1989). Readers interpret and do not automatically accept "authored" meanings. They bring their own background, experience and knowledge to what they read. As readers interpret words they read to create meaning, and there are likely to be multiple meanings that arise for different readers. Meaning is created by the interaction of reader, text, and the author's intentions (Yanow, 1994: 3).

Workshops are an essential part of disseminating the information in learning histories. Giving a learning history to a group of people without an opportunity to discuss its contents or implications does not allow for collective meaning-making processes. Learning history manuscripts are preceded by an attestation about their use in learning. In this attestation readers are told that they will not get the full value from the document if they simply read it like any other report. Instead, people are asked to read the manuscript in preparation for a meeting with other team members. They are asked to consider how what is in the document could be a vehicle for conversation by their team. In their own reading, people are requested to "take on the mind set of a beginner" and suspend their judgments so as to not automatically condemn people who made mistakes or assume they know why mistakes occurred.

The learning history workshop process seeks to make visible the reasoning process of the team members learning from the document. Readers are asked what would be necessary for them to come together to openly and honestly discuss their reactions to the stories and what possible lessons the history holds for them. The cover memo that precedes the learning history manuscript, and invites people to the workshop, emphasizes that as individuals they have a variety of prior experiences and different attitudes. The learning history workshop is a form of a "managerial practice field" (Senge, 1990) where people come to develop shared understanding for learning and change processes.

In order to develop a shared understanding of a complex change process, the conversation in which team members react to the written document is carefully slowed down. Slowing down the conversation allows people to talk about their perceptions of what happened, the interpretations and attributions they made from events, and the generalizations they have for moving forward. Everyone attending the workshop, not just the facilitator, is asked to take responsibility for creating the conditions that promote learning for themselves and others.

The slowing down of the conversation involves distinguishing between two phases of discussion. The first phase focuses on "what happened" and "why." People are asked to link their descriptive and interpretative comments to specific text in the learning history. The question, "What surprised you in reading this document?" is often used to start this conversation. Another way to have people talk about what seemed out of the ordinary to them is to ask, "Where did you find yourself quickly making judgments, blaming people for mistakes, wanting to "fix" things, wishing you could have provided expertise, or otherwise wanting to intervene in the situation?" The facilitator asks people exactly where in the text it was that they found themselves reacting. The facilitator grounds people's comments in the words in the text which led to them. By going directly to text, people's own reasoning process is separated from the reasoning that is a written part of the history.

As this conversation evolves, people develop a shared description for what happened and a set of plausible alternative interpretations for why events unfolded as they did. The second phase of conversation shifts to diagnosis and implications; it involves asking people to add their own interpretations to what is written. "So what?" and "what's next?" questions frame and stimulate this discussion. Often people's interpretation are different from what participants said or what authors wrote. We ask people how what was described compares to their experiences? Where did they have alternative interpretations from what participants (in the right hand column) or learning historians (in the left hand column) said? What are the implications of the experiences portrayed in the learning history for present initiatives? In this second phase of conversation the past is linked to the present and the future. What are questions for people to think about as they leave the workshop? Can people identify in themselves, or help others see, behavioral patterns described in the learning history that apply to their own team? The facilitator asks the team and its members to consider how their critical comments about the teams described in the learning history speak to their own conditions. What might be the causes of the behavior patterns the team wishes could change, and what responsibility could they take in bringing about those desired improvements?

Intended for audiences beyond original participants

Learning histories are intended to advance an understanding of a team's experiences — among members of the original team, with new members that join the team, through the rest of the organization, and in the community of managers and practitioners as a whole. Unless a learning history is designed to be viable for all these audiences, it would not be considered a learning history. The use of interviews and documenting what people have said has long been a technique used by organizational development consultants for diagnosis and intervention. However, creating materials on the efforts of a team (how the people on, and others outside, the team describe and think about what happened) and then framing what people did and said generically to make it generally available is a new practice.

Why would a broader audience even care? Because it is through the particular details organizational change efforts that universal and generic themes about the management of people and institutions is revealed. And, what is revealed is described at a level detailed enough so that people can move beyond the abstract to consider how what happened is similar and different to their own experience. It is essential that a learning history be investigated and written in a way that links the specific situation of a particular company to more universal archetypal managerial and organizational themes. The link of the specific to the universal is important in two ways. For a boarder audience the link provides a level of detail which brings abstract and general concepts down to earth by illustrating with particular descriptive details. For the particular company audience, it provides a universal framing to the particular events and what may seem like idiosyncratic situations. At the fine level of detail, thick description brings out universal human behaviors.

There are, of course, conflicts between the various audiences of a learning history. The project should be set up to address the resulting concerns. For instance, the general managerial audience extends beyond the boundaries of the organization. The learning history must protect confidential information and individual privacy (which requires disguising the name of the organization and its people). At the same time, it must be written and considered so that, at some point in time, with additional contextual material and editing, it can be released to the general public. The consideration that the learning history effort extends beyond the participants of the company studied requires careful planning and negotiating at the start of a project.

Field Experiences

Currently, there are almost a dozen learning history projects underway. In working with companies we no longer talk about "assessing" learning efforts. Instead, we talk about capturing the history of the learning process. This approach as been highly successful in gaining support for project documentation efforts. This new language changes has changed the tenor of assessing projects. People at all levels want to share what they have learned. They want others to know what they have done—not in a self-serving fashion, but so others know what worked and what didn't work. They want to tell their story.

Only a handful of dissemination workshops have been conducted to date. Almost all of them have been within the organizations about which the learning history is written. The learning histories have raised significant issues, and as the organizations struggle with their implications, they have been reluctant to make their document available to other companies. At some level this phenomena can be seen as an indicator of success. The opportunities for learning that arise from collectively considering mistakes are a powerful motivation for changing future behaviors. However, not all people who have been part of the learning effort, particularly proponents, have remained in the employ of the companies where their efforts took place. The immediate judgments of senior managers about mistakes that were made appear to have played a role in limiting the opportunities for those people who were open to their mistakes being known.

In the four projects where learning histories have been written and used, people's responses to the document were not as unanimously positive as was their reception to the reflective interviews. Some people in the organization are enthusiastic about the portrayal of the learning process, others, particularly managers promoting learning efforts and their consultants, have been "disturbed" by what the learning history says. Two major causes for this reaction have been identified. First is the consideration that learning efforts have been based on ideas of individual and shared vision as the motivating force for changes. The documentation of historical conditions reveals why the organization needs to change, something that proponents of learning are already intimately familiar with. Learning efforts are focused on possible futures, not on an undesirable past. The learning history puts the problems of the past and present in stark contrast with the ideals for a future. The second cause for dissatisfaction relates to managers' desire for prescriptive histories. They don't just want to be told what happened and how people think about it, they want to know what to do. More theoretical lenses, such as causal loop diagrams, which map the forces at play have been requested from the researchers. People want researchers to move from documenting events to include more synthesis, analysis and recommendations.

These reactions have caused concern and questioning of the learning history process. We are in the process of testing the different reactions to learn more about the perceived difficulties. Although individuals have said what they say in reflective interviews, approve their quotes once in isolation and later again in context, the messages for the organization are difficult to hear. It is not clear what the implications of these reactions are for learning histories. What does the reaction say about the learning history itself and what does the reaction say about the people and the organization? In a number of cases there is evidence that managers expected the learning history to provide only the learning process highlights, in essence, what people in the organization were telling proponents of the effort. Was the learning history expected to be a recording of great achievements — creating a legacy for the managers and consultants that led the change efforts? What is the tolerance of organizations to read about their own mis-steps and false starts along the road of learning and development? Does the age-old adage, "history is written by the victor," have an implication in these situations?

Although the learning project process may be a new method for stimulating organizational change, I personally believe that the organizations studied to date are not unique despite the best efforts of their managers to be more open to learning. I believe that these experiences are generalizable to all organizations. Kurt Lewin, the father of action research, is known for the theory that only by attempting to change a system does one demonstrate any real level of understanding (Schein, 1985: 22). I think about the learning intervention and learning history in the following way. A learning history reflects back to the organization its own character, based on what the learning intervention revealed. The metaphor of a bell (visualize a large bell, like the Philadelphia Liberty Bell) helps me to explain my thinking. A bell may be struck by a variety of objects. The force from those objects reveals the character of the bell in that it rings only at a frequency inherent to its own internal, physical characteristics. Different objects and the force by which they strike the bell affect the sound volume produced, but not the character or frequency of the sound. In a similar way, a learning intervention reveals the character of an organization. Perhaps the learning interventions has been particularly effective, producing a loud tone which more clearly reveals an organization's important characteristics. Once those characteristics are revealed, they can be understood and the organization has gained a new awareness and an opportunity to change more effectively.

Is the resistance to the message of the learning history like the phenomena of holding up a mirror to one's face? Whenever I look in a brightly lit mirror my initial impression is not one of approval. I am critical of myself and my appearance, and in the bright light of a mirror I notice blemishes and imperfections I don't normally see. Not only don't I care to see them, often I forget I have them, and that damn mirror is a sharp reminder of reality. Does this metaphor of the mirror apply to organizations? Is a learning history that damn mirror? Do most managers want to believe that their organizations are functioning better than the truly are? Is what people say to learning historians really what the organization needs to hear?

While I feel that I have proposed a set of characteristics for what makes a document a learning history, I might not have, at this point in time, fully tested my efforts toward the greater goal of creating a method for transferring learning. At this point, I know that the learning history efforts have not had enough time to make this determination. In the several months of experience in disseminating learning histories, I have noticed a "softening" in the reactions of managers as I am able to talk through the comments which initially surprised them. In terms of future implications, and the larger goal of transferring learning, what I can say is that the learning history has not meant "business as usual" for companies. The learning history has stopped the traditional process by which people respond to reports and generate meetings, conversation and reflection. Perhaps in the chaos of the reflection process the learning history document itself creates, a new sense making process that will help organizations learn more effectively can emerge.

References:

Argyris, C. (1990) **Overcoming Organizational Defenses**, Prentice-Hall, New York, NY.

Argyris, C. (1993) **On organizational learning**, Cambridge, Mass: Blackwell Publishers.

Argyris, C. (1993) **Knowledge for Action**, San Francisco: Jossey Bass.

Argyris, C. Putnam, R., and Smith, D. (1985) **Action Science: Concepts, methods, and skills for research and intervention.** San Francisco: Jossey Bass.

Cangelosi, W. and Dill, W. (1965) "Organizational Learning: Observations toward a theory" **Administrative Sciences Quarterly**, 10: 175-203.

Crapanzano, V. (1985)***Waiting: The whites of South Africa*** , Random House.

Deetz, S. A. (1992) **Democracy in the age of corporate colonization: developments in communication and the politics of everyday life.** Albany, NY: State University of New York.

DiBella, A. J. (1994) "The Learning Organization: A Concept of being or becoming?" paper presented at Eastern Academy of Management, Albany, New York, May.

Dixon, N. (1994) **Organizational learning cycle: how we can learn collectively.** McGraw-Hill.

Forrester, J.W. (1961), **Industrial Dynamics,** MIT Press: Cambridge, MA.

Garvin, D. (1993) "Building a Learning Organization," **Harvard Business Review**, July-August, pp. 78-91.

Giancola, P. (1992) "A systems thinking perspective of the product development process: A study of business and academic collaboration" unpublished masters thesis, MIT Sloan School of Management, Cambridge, MA

Ginsburg, F. D. (1989)**Contested Lives: The Abortion Debate in an American Community**, Berkeley: University of California Press.

Glaser, B. and Strauss, A. (1967) **The Discovery of Grounded Theory**, Chicago: Aldine.

Iser, W. (1989) **Prospecting: From reader response to literary anthropology.** Baltimore: Johns Hopkins University Press.

Kanter, R. M. (1983) **The change masters: Innovation and entreprenuership in the American corporation.** New York: Simon and Schuster.

Kets de Vries, M. and Miller, D. (1987) "Interpreting Organizational Texts" **Journal of Management Studies**, Vol. 24, No. 3. pp. 233-247.

Kim, D. H. (1993) "A Framework and Methodology for Linking Individual and

Organizational Learning Applications in TQM and Product Development", unpublished Ph.D. dissertation, Sloan School of Management, Massachusetts Institute of Technology, Cambridge, MA.

Kofman, F. (1994) "Double-Loop Accounting," in Senge, Peter, Art Kleiner, Charlotte Roberts, Rick Ross, and Bryan Smith (Eds)**The Fifth Discipline Fieldbook,** Doubleday/Currency, page 286.

Lakoff, G. and Johnson, M. (1980) **Metaphors we live by.** Chicago: University of Chicago Press.

Manturana, H. and Varela, F. (1992) **The Tree of Knowledge: The Biological Roots of Human Understanding**, Boston: Shambhala.

March, J., Lee Sproull, and Michal Tamaz (1991) "Learning from Samples of One or Fewer", in **Organization Science**, Vol. 2, No. 1.

Michael, Donald (1973) **Learning to Plan -- and Planning to Learn**

Miles, M. B. and Huberman, A. M. (1994) **Qualitative Data Analysis**, Sage Publications.

O'Conner, E. S. (1994) "Paradoxes of Participation: A literary analysis of case studies on employee involvement" working paper, Graduate School of Business, Stanford University, September.

Revans, R. (1966) **The theory of practice in management,** London, Macdonald & Co.

Roberts, R. (1992) "Implementing the Learning Organization: The application of systems thinking tools to product development in a manufacturing firm," unpublished masters thesis, MIT Sloan School of Management, Cambridge, MA

Roth, G. L and Kleiner, A. (1995) "Learning Histories: A Formal Process for Organizational Learning" Conference Proceedings, **Systems Thinking in Action Conference**, Boston, MA September 18-20, pg. 196-206.

Roth, G. L and Kleiner, A. (1996) "The Learning Initiative at the AutoCo Epsilon Program, 1991-1994," working paper 18.005, MIT Center for Organizational Learning, Cambridge, MA

Roth, G. L. (1996) "From Individual and Team Learning to Systems Learning" **Managing So Organizations Learn,** Cavaleri and Fearon (eds.), Blackwell Publishing, Cambridge, MA

Roth, G. L. and Senge, P. M. (1996) "From Theory to Practice: research territory, processes and structure at an organizational learning center" **Journal of Change Management**, Vol. 9, Issue. 1.

Sanday, P. (1979), "The ethnographic paradigm(s)", **Administrative Science Quarterly** Vol. 24. pp. 482-93.

Schein, E. (1985) **Organizational Culture and Leadership** Jossey-Bass: San Francisco.

Schein, E. (1987a) **The Clinical Perspective in Fieldwork**, Sage Publications: Newbury, CA

Schein, E. (1987b) **Process Consultation, Vol. II,** Addison-Wesley: Reading MA

Schein, E. (1992) **Organizational Culture and Leadership, Second Edition.** Jossey-Bass: San Francisco.

Searle, John R. (1969) **Speech acts: an essay in the philosophy of language** London: Cambridge University Press.

Searle, John R. (1995) **The construction of social reality** New York : Free Press.

Senge, P. M. (1990) **The Fifth Discipline: The Art and Practice of the Learning Organization**, Doubleday/Currency.

Senge, P. M. (1994) "Moving Forward, Thinking Strategically about Building Learning Organizations," **The Fifth Discipline Fieldbook,** Doubleday/Currency.

Smith, B. H. (1981) "Narrative versions, narrative themes" in Pondy, L., Morgan, G. and Dandridge, T. (eds.) **American criticism in the poststructuralist age.** Ann Arbor: Univeristy of Michigan, 162-186.

Spradley, J. (1979) **The Ethnographic Interview**, New York: Holt, Rinehart, and Winston.

Stein, J. (1982) **Edie: An American Biography**, Alfred A. Knopf.

Strauss, A. (1987) **Qualitative Analysis for Social Scientists**, New York: Cambridge University Press.

Strauss, A. and Corbin, J. (1990) **Basics of Qualitative Research**, Thousand Oaks, CA: Sage Publications.

Torbert, W. R. (1991) **The Power of balance: Transforming self, society, and scientific inquiry**, Newbury Park, CA: Sage Publications.

Van Maanen, J. (1979), "The fact and fiction in organizational ethnography" **Administrative Science Quarterly**, Vol. 24. pp. 539-50.

Watkins, Karen E. and Marsick, V. (1993)**Sculpting the learning organization : lessons in the art and science of systemic change**, San Francisco, Calif.: Jossey-Bass.

White, H. (1981) "The narrativization of real events" in Mitchell, W. J. T. (ed.) **On Narrative**, Chicago: University of Chicago Press, pp. 249-254.

Yanow, D. (1994) "Reader-response theory and organizational life: Action as interpretation and text" paper presented at the Academy of Management Meeting, Dallas, TX.

Yow, V. R. (1994), **Recording Oral History, a practical guide for social scientists**, Sage Publications, Thousand Oaks, CA.