Con Ettore, ho diretto i corsi per gli insegnanti di sostegno. Eravamo riusciti, tramite la stima e la fiducia che godeva presso i suoi colleghi, ad avere i migliori docenti che in quel momento erano presenti nelle università. I corsi per insegnanti di sostegno presso l'Università Statale di Milano erano giudicati, da parte degli ispettori ministeriali, tra i migliori in assoluto.
Furono 10 anni di lavoro, di studio, vissuti unitamente a un bellissimo rapporto d'amicizia e di grande stima.
Poi andai in pensione e mi occupai a tempo pieno della Fondazione intitolata a mio figlio.
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# LEZIONI MAGISTRALI

# PUBLIC LECTURES

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# Value Clarification & Perspective Taking in Effective Organizational Change Processes

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## ABSTRACT

T he current paper describes a program of research focused on extrapolating processes from Acceptance & Commitment Therapy to organizational settings. While a fair amount of research has accumulated in this area over the past decade, the current line of research seeks to expand on previous work through the development of online modules. The modules described in the current paper target value clarification, goal setting, and perspective taking and, due to their brief duration and automated nature, offer practical advantages over the typical workshop format. The paper concludes with recommendations for the expansion of the current line of research into the area of behavior-based safety.

*Keywords: Acceptance & Commitment Therapy, Value Clarification, Goal Setting, Perspective Taking, Behavior Based Safety, Organizational Behavior Management*

Due to methodological differences, ACT is more accurately referred to as Acceptance & Commitment Training when applied to organizational settings [1]. Thus, the methodological theme in this research is not based on traditional clinical techniques such as recurring "talk therapy" sessions. Rather, the current line of research seeks to develop a series of web-based training modules focused on value clarification, goal setting, and perspective taking – three central components of ACT [2].

## ACT AND RELATIONAL FRAME THEORY

ACT represents an applied outgrowth of basic behavioral processes found in the area of Relational Frame Theory (RFT), which is based on the notion of arbitrarily applicable derived relational responding [2-3]. Arbitrarily applicable relations are not based on physical stimulus properties. Rather, they are determined by social convention. In this

way, for example, we learn to say that an American dime is "more than" a nickel, even though a dime is physically "less than" a nickel. Following from this, from an ACT perspective, particular life choices can be in the service of particular life values without the values themselves being "good" or "bad" in any absolute (i.e., non-arbitrary) sense [2].

But while this ability has its advantages [2-3], it is not without disadvantages, the primary being the overgeneralization of relational operants to the extent that one's behavior becomes significantly more embedded in a verbally constructed world, rather than the world as it is actually happening. For example, rumor and gossip generated among employees can lead to a significant disconnect from organizational policies and, subsequently, significant performance detriments in an organization [4].

ACT comes into play by targeting overgeneralized relational operants through experiential, rather than rational, means. Thus, ACT is known for its use of metaphors that verbally place the individual in a particular situation such that they may experience for themselves particular ways of being that can alter the effects of detrimental verbal content [2].

The past decade has seen a fair amount of ACT research in organizational realm. A milestone in the progression of the work was the special edition of the Journal of Organizational Behavior Management (Vol. 26, 1-2), which reviewed the state of the science at the time and formally introduced the work to those in Organizational Behavior Management (OBM).

The current line of research builds on this literature in the form of brief, automated, online ACT modules. The first study in this line of research demonstrated that a brief ACT-based module significantly increased cumulative student GPAs and increased student retention among undergraduates at the University of Nevada, Reno [5]. More specifically, cumulative GPAs for the Values + Goal Setting Group increased from 3.13 in baseline to 3.23 after treatment. In addition, cumulative GPAs for the Values + Goal Setting Group in the waitlist control group increased from 3.13 to 3.22 after treatment. This is compared to the Goal-Setting Only group whose GPA increased from 3.13 during baseline to 3.16 after treatment.

The value-clarification module was designed such that "learning" was the focus but, most importantly, the module did not impose values related to learning on the students. To experientially communicate how values affect behavior, a metaphor comparing values to tending a garden was used. This metaphor emphasized how even though one may not ever find the perfect spot to grow vegetables and crops may be damaged by floods or droughts, one can still find something important in the process itself.

The modules then focused on what values are and are not, and illustrated the points drawn from educational and other situations where "learning" may be relevant. The values module concluded with open-ended questions designed to prompt the student to try and find something about "learning" that is important to them and that they value.

The goal-setting module was primarily based on the work of Locke and Latham [6],

with particular emphasis on setting SMART goals (Specific, Measurable, Attainable, Realistic, and Time Oriented). Similar to the value-clarification module, the goal-setting component concluded with several open-ended questions that enabled the students to freely set goals aligned with their previously stated values related to education. Like the values exercise, it is important not to impose goals on students but to have them generate goals on their own in order to maximize commitment to the goals.

The encouraging results found in the study prompted two subsequent studies in two diverse areas, which are currently in progress. One such study constitutes a staff training for employees in a human services organization in northern Nevada. The values and goal-setting portions of the modules focused on finding something important in working with other people, and other staff in particular.

Unlike the original study, however, these modules added a perspective-taking component which consisted of an experiential exercise designed to have the staff take on the perspective of the disabled individuals with whom they serve. The experiential exercises prompted the staff to imagine they are in a foreign country where they do not understand the local language or customs, but still must find ways to communicate and provide for themselves. The exercise targeted an essential component of the individuals with whom the staff serve – language deficits – and presented a series of open-ended questions designed to get the staff members to think about how it would feel to be in such a situation and possible alternative ways that one might try to communicate, including maladaptive behavior such as self-injurious behavior or aggression.

The second study to emerge from the original educational study is influenced by a recent grant with the Department of the Navy and is designed to simulate aspects of training situations encountered by military. Methodologically speaking, this study is similar to the staff training discussed previously in that "working with others" is a theme throughout the modules. However, this study utilizes a 1st-person shooter video game that places the participant in a situation in which she must lead the team to meet the mission objectives while instructing the confederate partner in the process. In addition, the participant is told that the partner is a veteran of the Iraq war and will award bonus compensation at the end of the study based on the quality in which the objectives were completed (in addition to $1 per objective completed). This potentially creates a situation in which the participant must instruct a person in a position of authority over the participant and, thus, generate a degree of social inhibition regarding the participant's (i.e., leader's) communication with the confederate (i.e., subordinate) teammate. This is a situation that is commonly dealt with in the military.

Unlike the previous two studies, goal setting was not included due to the highly dynamic nature of the game itself. Instead, the primary target of this study is team adaptation and innovation through communication. Thus, this study utilizes a value-clarification procedure targeting "working with others" similar to the before-mentioned

staff-training study. In addition, this study utilizes an experiential perspective-taking exercise designed to prompt the participant to take the perspective of different team members in a stressful combat situation. The general aim of this study, then, is to use online ACT modules to improve team performance and reduce any social inhibitions that may be in place due to the authority structure of the team.

The exercise is followed by open-ended questions that prompt the participant to think about how the team-leader and subordinates should act, and what team-based values may be relevant, in such a situation in order to survive and complete the mission objectives.

Lastly, the game itself has been found to generate a significant amount physiological and mental arousal, which can impede effective decision-making and communication. This, combined with the social inhibition effects that are potentially generated through the leader-subordinate hierarchy are two major obstacles to team innovation. The modules in this study are designed to alter the functions of said arousal and inhibition in order to promote effective innovation, communication, and the achievement of mission objective.

## EXPANDING INTO BEHAVIOR-BASED SAFETY

As has been demonstrated in the preceding line of research, the ACT-based modules are highly modifiable to fit the needs of widely varying contexts, from education, to staff training, and military training. Adapting ACT modules into the safety arena, then, should be fairly straightforward.

Eventhough values have received attention in the behavioral safety literature (10, 11, 12), important methodological differences should be noted among the approaches used to assess and clarify values. First, the values intervention is typically done by having managers define them or enlisting the participation of a select group of personnel to state them and training the rest of the employees on those values [7,11, 12]. Thus, employees may overtly state their approval and buy-in for an intervention simply to please managers or peers rather than out of a genuine interest and commitment in the values themselves. Lastly, the primary advantage of the online modules discussed herein is their personalized nature – each employee contacts an in-depth value-clarification exercise designed to prompt the individual to clarify his/her own values that are applicable to the workplace but also relevant to ones' larger life direction.

With virtually all types of safety issues facing a company, retaining the focus on "working with others" in the modules would be important. For example, an oil refinery or offshore drilling platform is a highly volatile work setting where the actions of one person can endanger the safety of everyone at the site. In these situations, designing a training module that prompts employees to find something meaningful in working with others would be warranted.

On the other hand, many people have the faulty perspective that safety violations result in "self-inflicted injuries" that have little effect on coworkers' safety. For example, a common misperception is that if a worker at a chemical plant forgets to put on his/her

safety goggles when handling a caustic substance and injures his/her eyes as a result, the safety of other coworkers is not necessarily in danger. The fault in this perspective is that such incidents can still impact others in different ways. Often this faulty perspective of blaming the workers for their injuries is expressed by managers seeking to insulate themselves from requirements to maintain a safe work environment and adequately supervise work practices.

For example, if someone has a "self-inflicted injury", he/she may financially impact the organization in terms of workers compensation costs. Engaging is at-risk behaviours like this models that behaviour to others who might imitate it. First responders may be exposed to hazards. The employee's family could be financially and psychologically affected by lengthy hospital stays, surgeries, and a diminished capacity to function as a father, mother, or spouse. In these cases, a focus on "working with others" may not precisely target the appropriate value- and goal-relevant areas related to safety. Instead values clarification to focus on "personal responsibility" or "how your behavior impacts others" could be more appropriate.

After values are established and clarified, the goal-setting component can follow to ensure that one's personal safety goals are in the service of one's previously stated values. Such goals should be SMART, which will allow for one to track his/her progress either through self-monitoring or with peer or manager assistance. Performance-based incentive systems based on value-aligned goals can be arranged to maintain this practice [8].

Perspective-taking exercises can also be designed such that one may experientially apply his/her values-serving and goal-directed behavior to situations that threaten the safety of oneself as well as others. In this sense, the perspective-taking exercise can be seen as an exercise that brings the values and goal-setting components together such that one may practice applying the results of the exercises to volatile situations without placing themselves in physical danger.

In addition, aligning goal-setting and values-clarification training with an organization's mission statement, job description, or new initiative has the capacity to promote employee "buy-in". Likewise, it has been argued that values-clarification training procedures can increase psychological flexibility (8 & 9) and encourage organizational and individual value congruence (8).

Moreover, future research in the area of perspective taking at the management and leadership levels would promote the impact of behavioural science in leadership training. As with value-clarification, this type of training has the potential to promote psychological flexibility and empathetic approach toward management and leadership. As we see it, further analyses associated with the impact of experiential exposure to value clarification and perspective taking on cooperation, employee buy-in, employee satisfaction, employee retention, absenteeism, employee burnout, performance efficiency and productivity is a challenge that is worth the direct attention of the behavior analysts in the field of Organizational Behavior Management.

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**PUBLIC LECTURES**

# Best-practice in Behavior-Based Safety Applications in Hospital Settings

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## ABSTRACT

Hospital settings expose workers and patients to an array of risks for injury and illness. Behavioral factors abound and preventions of injury and illness require comprehensive safety systems. The literature provides ample evidence that behavioral technologies are effective in establishing safety practices. Best practice requires organizational supports to integrate behavioral control with other safety initiatives.

*Keywords: healthcare, behavioral safety, systems analysis*

## BEHAVIORAL SAFETY TARGETS IN HEALTHCARE

Occupational injuries pose a substantial problem in health care organizations. To many this may be surprising as settings devoted to health and recuperation would seem to be safe work environments. But consideration of the exposures workers face in healthcare reveals a breadth of serious risks with potential for a diverse range of injuries and illnesses. Environments may expose employees to infection and contamination (Boyce, 2001). Healthcare settings are designed for patient care and worker safety can be compromised in the design of equipment and work space as ergonomic exposures are common. Exposures to chemicals, pinch points, slippery surfaces, sharp objects and more are features of some healthcare settings. Consider a surgical suite in which healthcare workers operate. Workers face multiple challenges, often under stressful time pressures, to conduct complex procedures. Safely handling sharp objects (scalpels) and ignition sources (lasers) when working with volatile materials (e.g., oxygen) can expose workers and the patient to considerable risks. Cunningham & Austin (2007) reported behavioural techniques effective in improving the handling of sharps by operating room personnel and illustrate how behaviour analysis plays a role in improving the safety of complex health care. Routine work like assisting with patient

ambulation, patient bathing and meal preparation may also expose workers to risks for injuries like over-exertion and cumulative trauma. It is no surprise that the U.S. Bureau of Labor Statistics (2007) reported that in 2006, "the incidence of occupational injury and illness in hospitals was 8.1 cases per 100 full-time workers, compared with an average of 4.4 for private industry overall". This incidence rate includes injuries sustained while lifting patients, contact with equipment and machinery including needle sticks, lacerations from sharps, slips and falls, and a large number of illnesses and infectious diseases, such as hepatitis, AIDs, or tuberculosis.

Boyce and Pittet (2002) report faulty hand hygiene is considered the leading cause of health-care associated infections. Boyce (2001) summarizes many studies over the past 10 to 15 years demonstrating that the adherence of health care workers with hand washing practices is low. They estimate hand washing adherence is on average 40% by health care workers. Angjtuaco, Oprescu, Lal, Pennington, Russell, Co, & Howden (2003) report lack of progress in adherence by physicians to safety guidelines despite years of effort involving education and training. Health care settings are typically high stress, high demand work environments and fatigue contributes to error. Registered nurses and physicians have high levels of responsibility and complex duties (U.S. Bureau of Labor Statistics, 2007) which can contribute to the high stress. Team coordination and problem-solving (e.g., by surgical teams) can be challenged when staff members are trained in their specialty and communications with others are ambiguous or misinterpreted. An emerging area of collaboration between aviation safety and medical safety promises to improve training and communication within medicine. The highly developed safety protocols used by pilots and air traffic controllers provide a model for medical team coordination. The sophistication of flight simulators informs design of medical simulations to improve the speed and accuracy of problem solving during medical emergencies.

Patients encounter risks as well and high rates of patient injuries and illnesses are reported due to medical errors and other risk exposures while being treated. Medication errors are all too common events resulting in serious consequences.

Analyses of these injuries and illnesses identify behavioural sources of the problems. In many cases behavioural factors play a significant part in controlling risks or exacerbating them (Sulzer-Azaroff & Fellner, 1984). Behavior is a function of the environment including prevailing conditions and the learning history of the person (Sulzer-Azaroff, 1978). Caregivers may engage in at-risk practices when working with patients across a continuum of care thus observation systems are needed to track behaviours in complex and varied environments. At-risk behaviours may result from faulty or inadequate learning or the environment might not motivate safety practices. At-risk behaviours are inadvertently reinforced as short cuts are often less effortful than safety practices and sometimes peer pressure encourages risk taking. For example, faulty lifting technique used when moving and positioning patients contributes to sprains and strains suffered by nurses and attendants. Optimal lifting technique is difficult to establish and maintain as standard practice when training programs only

teach knowledge and not practical skills. Behavior change interventions that establish safety habits on site are more effective (Alavosius & Sulzer-Azaroff, 1985, 1986, 1990) but these require organization of active safety management efforts that go beyond classroom workshops. Infection control requires adherence with hygiene practices like hand washing between patient contacts, when contacting body fluids, and sanitation of equipment and work surfaces. These too are habitual behaviours that are challenging to maintain. Teaching knowledge of risk is often insufficient to establish hygienic safety practices and behaviour change interventions like coaching, feedback, and reinforcement are shown as more effective solutions (DeVries, Burnette, & Redmon, 1991; Stevens & Ludwig, 2005; Luke & Alavosius, 2011). Workers and patients across the spectrum of healthcare are exposed to a broad array of risks for injury and illness and best practices in healthcare safety require systematic behaviour management to control behavioural variation. Systemic management entails a host of leadership, management, and work behaviours coordinated to yield desired outcomes. This coordination is the foundation of best practices that control the many risk exposures found in healthcare.

## BEST PRACTICES

A comprehensive behavioral safety system in healthcare settings would require management of multiple risk factors and coordination of complex repetoires by a wide range of personnel. Ultimately definition of best practices will require data-based assessment of optimally functioning systems. At this juncture, the literature in organizational behaviour management and behavioural system analysis indicates features of management that are likely needed to establish and maintain best practices. Organizations that function optimally are charaterized by a complex set of interlocked behaviors that combine to achieve outstanding results. Sulzer-Azaroff (2000) notes that designing and managing high performance organizations requires behavior analysis from multiple vantage points. Executives examine the breadth of the organization and set the stage for intermediate and low level actions that align with corporate directions. We can set an organizational framework for best practices and scan across organizational levels to define the following features of a safety system in healthcare meeting the stature of best practice:

1. Leaders at the highest levels of the healthcare organization specify the mission of the organization, values towards safety, structure of the organization, roles and responsibilities, accountability standards,and then establish policies and procedures to direct the workforce.

2. Managers are provided with the resources and tools needed to equip and staff their work units for optimal functioning. This extends across all work areas from food service through patient care areas including the most specialized setings.

3. A safety team with respresentatives from all functional areas coordinates and evaluates behavioral safety initiaves and integrates these with other safety efforts. Safety practices are affected by other management actions like purchasing decisions

(e.g., design of needles vary and increase or decrease the risk of needle sticks), work schedules, safety engineering, staffing patterns, etc. A safety team ideally has resprentatives from all vital functions.

4. A comprehensive data collection system is operational and includes behavioral observations to detect behavioral variations that are upstream to reported incidents. This entails significant training of personnel to observe work practices and measure variation in behavior. Once recorded these data need to be entered into a tracking system to permit timely analyses. Ideally analyses are conducted in real time to permit rapid response to emerging risks.

5. A powerful data base and skilled analysts are needed to relate data elements (e.g., behavioral measures, outcome measures, incident reports, training data, etc.) and produce timely reports that illustrate patterns and trends.

6. Employee training systems that establish the knowledge, skills, and abilities needed for safe conduct of work are a foundation element. Often safety training focuses on teaching employees knowledge of hazards and risks but falls short of transfering this knowledge to the actual work site. Skill training is more complex as this entails acquisition of skilled practice in actual work environments. So one might teach nurses knowledge of the risks of infections and guidelines for hand hygiene in a classroom setting. Getting the nurses to actually adhere to these practices in treatment rooms requires some follow-up actions (like supervisor or peer feedback) to establish these as routine habits. Training abilities is even more complex. Abilities are general response classes like stress management that allow healthcare workers to perform safely even when stressors mount and work routines are disrupted by crises.

7. Communication networks that maintain employees' awareness of trends and emerging developments are crucial for sustaining performance. Coordinating the multiple disciplines working within healthcare requires dissemination of information across levels of the organization. Employees respond to such communications in ways highly affected by their training history and personal values. Communication includes the person-to-person exchanges during routine work (e.g., a supervisor providing feedback to an employee) through more formal modes of information sharing (e.g., staff meetings, newsletters, directives, etc.). Communications are increasingly seen as manageable features of work environments such that assessment of employees' verbal repetoires and values (McSween, 2003) are used to tailor messages (like safety directions) to the various audiences for such information.

8. External program review by advisory boards, regulators, and auditors serves an important quality assurance function. Best practices requires that safety personnel keep current with emerging findings from basic and applied research. External reviews prompt continuous refinements of functioning systems. What is best practice in 2012 is likely to be seen as antiquated in 2022.

## CHALLENGES AHEAD

Behavior-based safety emerged as a coherent management approach to safety only in

the past 40 years. During those decades an impressive literature has been published showing the impressive results obtained by behaviour analysis when it is added to other safety initiatives. We can confidently conclude that the best performing safety systems in healthcare organizations, as in many other business and industries, organize behavioural controls to manage variation in employee behaviour. Sustaining behaviour change involves a complex set of interlocking contingencies that operate within the layers of any organization. Principles of behaviour affect all behaviour including actions by executives, managers, and direct-line staff members. Best practices are achieved when organizational systems support behaviour changes initiatives like those cited in this review.

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**PUBLIC LECTURES**

# Behavioral systems analysis: tools and techniques

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## ABSTRACT

This paper provides an overview of how to conduct a Behavioral Systems Analysis by outlining six critical Performance Truths that must be addressed to make any sustainable organizational improvement. The systems approach presented here ensures that the appropriate performance support is designed at all levels of an organization for any change initiative. A diagnostic tool, the Behavioral Systems Analysis Questionnaire is offered as the basis for conducting an analysis in any organizational setting by asking the right questions to identify the critical areas in which to focus improvement efforts. This tool allows the analyst to follow a comprehensive and methodological framework that addresses each Performance Truth and can be replicated in any organizational setting.

*Keywords: Behavioral Systems Analysis, Behavioral Systems Analysis Questionnaire, Performance Improvement, Organizational Behavior Management, Performance Truths*

## BEHAVIORAL SYSTEMS ANALYSIS

Behavioral Systems Analysis (BSA) is an approach to performance improvement within Organizational Behavior Management (OBM) that requires analyzing not only the behaviors of individuals but all components of the organizational system that could impact performance (Brethower, 1982; 2000; 2001; 2002; Malott, 2003; Sulzer-Azaroff, 2000). BSA can be contrasted from the more commonly-applied OBM interventions known as Performance Management (PM). PM involves analyzing the antecedents and consequences surrounding behaviors of individuals (or groups of individuals) within an organization and altering those antecedents and consequences to get the desired behavior change (Austin, 2000; Daniels & Daniels, 2004). Common PM interventions include goal setting, feedback, job aids, token systems (earning points that can later be redeemed for valued items), lottery systems, and so on (Redmon & Wilk, 1991). BSA interventions may include these components, but are also likely to include process redesign, automation, changes in resource deployment, strategy development, organizational restructuring, and managing the manager initiatives, to name a few. The value of this approach is that it allows us to analyze the broader

system outside of the local three-term contingency surrounding the performer to significantly impact both individual and organizational performance.

Complexity is inherent to organizations, especially in modern multinational companies. To understand this complexity, BSA involves analyzing multiple levels that ultimately impact the organization's current and desired performance (i.e., industry, organization, management, process, and performer levels). Because of the inherent complexity of sorting through a multitude of variables and behaviors to find the correct solution to performance issues, integrative BSA tools are necessary. The method of BSA tools is to work through the complexity of systems to ultimately identify areas where the subsystems and individual behaviors disconnect from the goals and processes of the overall organization. Such tools must offer solutions, plans for getting those solutions implemented, and ways to continuously monitor performance and adapt to changing needs over time (Malott, 2003; Rummler & Brache, 1995; Rummler, 2001; 2004; Rummler, Ramais, & Rummler, 2009). By conducting a BSA before behavioral interventions, it is possible to provide the framework for selecting interventions that are linked to goals important to organizational survival (Redmon & Wilk, 1991).

## MODELS OF BEHAVIOR SYSTEMS ANALYSIS

All levels of the organization contribute to performance so each approach to BSA includes multilevel analyses. Brethower (1982) presented a parsimonious tool he called the Total Performance System (TPS) that could be used to analyze an entire organization, or any of its sub-systems, such as a program or a specific job role. The TPS contains 7 components: (1) Mission; (2) Processing System; (3) Inputs; (4) Outputs; (5) Receiving System; (6) Internal feedback; and (7) External Feedback. By starting with the TPS, a person charged with improving performance is equipped with a holistic view in order to best design change efforts. The basic premise of the TPS is that each system component must be in place without deficiencies.

The Super System Map (Rummler, 2001; Rummler, 2004) is similar to Brethower's TPS, but includes competition and environmental variables in the analyses. Rummler and Brache (1995) introduced a three-level approach that included organizational, process, and job/performer levels. Malott (2003) introduced a six-level approach to analyzing performance in her Behavioral Systems Engineering Model, employing versions of the TPS, process mapping, three-term contingency analysis, and Interlocking Contingencies at Various Management levels (similar to the Cultural Change Model: Malott, 1999), as well as introducing macro-system and task analyses. At the person-level of analysis, the behavioral level in all the above models, specific models apply such as the Human Performance System Rummler (2001; 2004), Performance Diagnostic Checklist (Austin, 2000), and the Behavior Engineering Model (Gilbert, 1996).

After decades of work by BSA pioneers (Brethower, 1982; Gilbert, 1996; Malott, 2003; Rummler & Brache, 1995; Rummler, 2001; 2004), a format was created that integrated all of these models and make analyses tools available for both a novice and

expert analyst to follow (Diener, McGee & Miguel, 2009; McGee & Diener, 2010; 2012). This format involves outlining fundamental Performance Truths and then creating an assessment device, named the Behavioral Systems Analysis Questionnaire (BSAQ) to provide a tool that comprehensively analyses the full system..

## PERFORMANCE TRUTHS

Performance Truths are the fundamental tenets of Behavioral Systems Analysis and were created based on years of practice, collaboration and feedback from BSA pioneers, colleagues, clients and graduate students (McGee & Diener, 2010; 2012). The intent of the six Performance Truths is to outline the comprehensive BSA process across each level to help to expand the reach of BSA (i.e., beyond academia trained practitioners).

**The Performance Truths are**

1. An organization must be driven by a clear and measurable mission.
2. An organization must adapt to change quickly and efficiently.
3. Workflow must be well-planned and easy to manage.
4. Job metrics must be directly linked to workflow metrics.
5. Management practices must focus on supporting goal-directed behaviors.
6. Performance must be planned and managed across all levels.

The performance truths are organized in such a way to allow the analyst to follow a thorough, step-by-step process for collecting the right information to create visual maps of an organization. The analyst would then work with stakeholders in the organization and use the maps to help make informed and objective decisions about where to focus improvement efforts. This is not an easy task, so a guided analysis process is necessary.

## GUIDED ANALYSIS

While an analysis process and tools are useful, they are not enough for the beginning analyst. The difference between the novice and the expert is that the expert knows which questions to ask to get the necessary information to fill in the tools and, thereby, identify the gaps in performance. The beginner does not typically know which questions to ask. Most systems models are not constructed in a learner-centric format and require future users to be "certified" through a series of training events and tests (such as the Six Sigma "Black Belt" designation). For this reason, we have created an algorithm in the form of guided questions to facilitate each step of the analysis process (Diener, Mcgee & Miguel, 2009). By becoming fluent in asking the right questions, even the beginner analyst will be able to accurately pinpoint where performance problems lie.

The BSAQ is a series of question sets designed to ensure the right questions are asked to thoroughly address the Performance Truths, by identifying and diagnosing system components across all levels of the organization, from the organizational level to the person-level. A sample of questions from the BSAQ is presented below. These

question sets are organized around the Performance Truth they are designed to analyze. The reader is encouraged to attempt to answer each question with consideration of their own organization.

## PERFORMANCE TRUTHS AND SAMPLE OF THE BEHAVIORAL SYSTEMS ANALYSIS QUESTIONAIRRE

**Performance Truth 1:** An organization must be driven by a clear and measurable mission. Sample BSAQ Questions :

- What is the organization's mission? (e.g., why does it exist?)
- What bigger system is the mission aimed at serving?
- Does the mission (a) specify an accomplishment; (b) measureable? and (c) in the organization's control?
- Do all relevant parties agree with the mission?
- How is the mission communicated internally and externally?
- Do organizational strategic goals cover : (a) products and services (e.g., increase in #, type or quality) (b) Customer groups (e.g., corner which market?) (c) Competitive advantages (e.g., how to stay ahead?)
- How are the mission and strategic goals aligned with the most recent state and federal goals and regulations?

**Performance Truth 2**: An organization must adapt to change quickly and efficiently.

Sample BSAQ questions:

- What products and/or services does the organization deliver?
- How does the organization assess how well it is reaching out to the right customer groups?
- How do products/services offer the organization a competitive advantage?
- Are the financial outputs of the organization sufficient (i.e., generate enough revenue to cover costs, hire qualified personnel, and improve technology)?
- How are the following measures tracked? (a) customer satisfaction; (b) product/service quality; (c) Timeliness of product/service delivery; (d) profit/loss by product/service type
- How does the organization keep up with industry related best practices?
- How are local, state and federal level changes monitored by your organization?
- What other organizations compete for funding, human resources and contracts?
- Who are the organization's competitors? What are the organization's competitive advantages? (e.g., quality, benefits, features, price, process, availability, uniqueness)

and disadvantages? ((i.e., area of weakness compared to competitors)

**Performance Truth 3**: Workflow must be well-planned and easy to manage.

Sample BSAQ questions:

- What are the key outputs for each function of your organization and who receives them?
- How are each of these key outputs measured and managed?
- How do these measures contribute to organizational goals?
- How are needs and feedback communicated between functions?
- How are resources allocated to functional areas?
- Do all functional areas have sufficient resources to do their part in the development and delivery of services?

**Performance Truth 4**: Job metrics must be directly linked to workflow metrics.

- What are the key outputs for this job?
- Which internal or external customer receives each of these outputs?
- What are the quality, quantity, timeliness and cost goals/standards for each output?
- How do these measures contribute to workflow goals?
- How are needs and feedback communicated to person in this job role?
- Does the job role have sufficient resources to do their part in the development and delivery of products/services?
- How does this job role provide the agency a competitive advantage?

**Performance Truth 5**: Management practices must focus on supporting goal-directed behaviors.

- Does the performer receive feedback in relationship to job goals/standards?
- Are job goals/standards consistently being met by performer?
- What are the critical tasks this performer must do to produce this output & achieve goals/standards?
- Does the performer have the necessary skills & knowledge to perform each critical task?
- Is the performer is physically, mentally & emotionally capable to perform each critical task?
- Are there any organizational issues which might be interfering with the performer's success? (e.g., staffing problems, training certification path not aligned with process, management changes, etc.). How are these issues being managed?

**Performance Truth 6**: Performance must be planned and managed across all levels.

- Who collects/reports the business level measures (e.g., profit/loss, customer satisfaction)? Process level measures (e.g., quality, timeliness, cost)? Performer level measures (e.g., goals met)?
- What tools or systems do they use to collect/report the data?
- When do they collect/report the data?
- To whom are the data reported and when?
- How are the data used to analyze deviations from goals and take corrective actions?
- How is this information used to design goals and measures?

## SUMMARY

Behavioral Systems Analysis offers a comprehensive framework for organizing performance analysis and improvement efforts. The Performance Truths and BSAQ presented in this paper offer the structure for asking the right questions to analyze and improve performance across all levels of any organization. BSA is a continuous process versus a one-time-effort. Any analysis should include input from multiple sources to constantly ensure objectivity. For more information on BSA, the Performance Truths, and the BSAQ, including case studies and examples, visit www.performanceblueprints.com or e-mail lori@performanceblueprints.com

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**PUBLIC LECTURES**

# Organizational Behavior Management And Behavioral Safety The Same Source Of Excellence

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## ABSTRACT

Behavior-Based Safety (BBS) has enjoyed popularity based on its scientifically validated and real-world tested effectiveness in reducing injuries. BBS has its roots in the field of Organizational Behavior Management (OBM) that applies behavior analytic techniques to provide organizational solutions to increase improve performance in the workplace. BBS and OBM share many similarities such as systems analysis, a focus on observable behaviors and evidence-based interventions and the use of assessment to understand the contingency environment of the behaviors targeted. OBM goes beyond the safety variables targeted by BBS to other organizational performance variables of interest to organizations (quality, productivity, pay systems and incentives, leadership, training, political behaviors, absenteeism, marketing, and security, to name a few). Nevertheless, BBS and OBM share the same source of behavioral excellence that reinforce positive, proactive behaviors such as reporting, communication (including coaching and collaborating), problem solving, and data-based decisions that have system-wide implications for organizations.

*Keywords: Behavior-Based Safety, Organizational Behavior Management, Quality and Productivity*

## ORGANIZATIONAL BEHAVIOR MANAGEMENT: BEYOND BEHAVIORAL SAFETY

The success of Behavior-Based Safety (BBS) as a scientifically and practically validated process (e.g. Grindle, Dickinson, & Boettcher, 2000; Hermann, Ibarra, & Hopkins, 2010; Komaki, Barwick, & Scott, 1978; Ludwig & Geller, 1997, 1999, 2000; Myers, McSween, Medina, Rost, & Alvero, 2010; Sulzer-Azaroff & Austin, 2000) has led to wider interest in other applications of behavior analysis in the workplace. Indeed, BBS is a subset of a larger field of research and application and can be strengthened by leveraging its knowledge and tools to make a even greater impact.

Behavior-Based Safety grew out of a relatively new area, for its time, called

Organizational Behavior Management (OBM) which in turn had grown out of the behavior analysis movement in psychology influenced by the work of B. F. Skinner. Dickinson (2000) reconstructed the early history of OBM, noting its "behavior modification" roots in programmed instruction and applied behavior analysis in the 1960s and 1970s. Daniels (1977) offered an editorial in the first issue of the *Journal of Organizational Behavior Management* that explicitly linked OBM within behavior analysis through identifying OBM with the basic tenets of Applied Behavior Analysis extolled by Baer, Wolf, and Risley (1968) in the first issue of the *Journal of Applied Behavior Analysis* ten years earlier. OBM practitioners approach organizational performance improvement by targeting work behaviors that are related to key success-related outcomes (Crowell, Hantula, & McArthor, 2011; Hyten, 2009). Similarly, BBS practitioners approach reduction in injury by targeting behaviors related to risk.

Thus, BBS, OBM, and their core field of Behavior Analysis all have theoretical underpinnings around Skinner's principle of "selection by consequences" (Bucklin et al., 2000) where the three-term contingency stresses the importance of antecedent conditions when paired with the reinforcing elements of consequences to predict and create behavioral change (DiClemente & Hantula, 2003). BBS and OBM share their focus on three foundational tenets: (a) observable behavioral measures rather than covert internal thoughts, feelings, or traits, (b) demonstrating behavioral change over time, and (c) designing interventions based on the systematic introduction of antecedents or consequences (Bucklin et al., 2000; Crowell & Anderson, 1982 a, b). While there are similarities, both OBM and BBS can borrow and learn from each other, particularly in the use of assessment tools.

## OBM AND BBS ASSESSMENT TOOLS

OBM focuses on designing, implementing, and evaluating techniques and tools that organizations can use to improve (Crowell & Anderson, 1982a). Some of this effort has been put into the development of system analysis tools for identifying where important improvement opportunities exist within organization's strategic business and process levels (e.g., Brethower, 1982, 2002; Diener, McGee & Miguel, 2009; Malott, 2003; Rummler, 2001, 2004), performance diagnostic tools to help pinpoint behavioral linkages to process performance issues (Austin, 2000; Gilbert, 1996; Rummler, 2004; Rummler, Ramais & Rummler, 2009), and finally, tactical three-term contingency analysis tools at the person-level otherwise known as the "ABC Analysis" (Malott, 2003; Daniels & Daniels, 2004). Aligning the various organizational system and process contingencies across employees and managers with more delayed outcomes are analyzed in order to design effective contingencies (Glenn, 1991; Malott, M.E., 2003; Malott, R. 1999).

Analysis tools in BBS are less sophisticated than in OBM. Most successful BBS programs have some version of the "ABC Analysis" that are used for problem solving when behavioral observations reveal trends in at-risk behaviors. Geller (1996, 2001) outlines an analysis based on antecedents and consequences that either encourage or

discourage the at-risk behavior similar to the PIC/NIC Analysis offered by Daniels & Daniels (2004) widely used in OBM. BBS programs can benefit from cogent strategic systems analyses offered by OBM's analysis tools. Such analyses would help safety professionals link the behaviors associated with injuries to the contingencies delivered, intentionally or unintentionally by organizational processes, systems, and objectives. This would be a productive research area in OBM's stewardship of BBS.

## SCOPE OF BBS AND OBM INTERVENTIONS

The intervention is a key component of both BBS and OBM, and both focus on the refinement and evaluation of behavior change based on the application of certain kinds of antecedents (e.g., goal setting, task clarification) or consequences (e.g., feedback, reinforcement). But BBS and OBM have dramatically different scopes. For instance, BBS focuses on injury reduction while OBM focuses on a range of systemic issues that impact work behaviors and lead to profitability. To illustrate the broad range of topics studied in OBM, a quick look at published OBM interventions demonstrate the reach of behavior analysis' impact into key organizational performance areas. Some recent examples include:

*Quality.* Bateman and Ludwig (2003) demonstrated the efficacy of tiered goals and a moderated disincentive program in decreasing employee errors. Goomas (2010) and Berger and Ludwig (2007) showed how technology can deliver OBM interventions more effectively to decrease employee errors. Berglund and Ludwig (2009) created a more proximal feedback system to decrease delivery errors.

*Productivity.* Wilk & Redmon (1990) used typical OBM interventions to impact productivity in an office setting. Ludwig and Goomas (Goomas & Ludwig, 2007, 2009; Ludwig & Goomas, 2007, 2009) have published many technology-based feedback intervention studies focused on productivity improvement in warehouse operations that include cost-benefit data.

*Pay Systems and Incentives.* Performance pay systems have been evaluated across various job levels, process improvements, and time frames (Hyten, Chhabra, & Porter, 2003) showing enhanced department profitability (Chhabra, 2000). The role of incentives have been broadly reviewed in the OBM literature (Gaetani, Hoxeng, & Austin, 1985; Honeywell, Dickinson, & Poling, 1997; Slowiak, Dickinson, & Huitema, 2011) and have been poignantly described in Abernathy's book *Sin of Wages* (1996).

*Leadership.* Judi Komaki has published many seminal works on the operant foundations of leadership effectiveness (Komaki, 1986; Komaki, Minnich, Grotto, Weinshank, &

Kern, 2011)

*Political Behavior in Organizations.* OBM researchers have even delved into power contingencies in organizations (Goltz, 2003; Smith, Houmanfar, & Denny, 2011).

*Training.* Training effectiveness has been studied in OBM through empirical studies

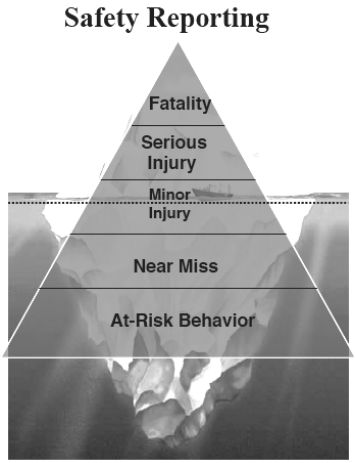
(Haberlin, Beauchamp, Agnew, & O'Brien, 2012) and in real-world case studies (Kriesen, 2011).

*Marketing.* Hantula and Wells compiled an entire special issue of the *Journal of Organizational Behavior Management* (*JOBM*) containing 11 articles dedicated to the analysis of consumer behavior (2011)

*Absenteeism.* Camden and Ludwig (in press; Camden, Price, & Ludwig, 2011) have demonstrated how both normative and metacontingency feedback can significantly impact absenteeism.

*Security.* Hogan, Bell, and Olson (2009) investigated the role of reinforcement in detection of threat in baggage screening.

## LINKING BBS AND OBM




Beyond the theoretical similarities, BBS and OBM share parallels in the practical life of workers as well as in the more results-based demands of modern organizations (Hyten, 2009). Figure 1 shows a visual representation of safety-related reporting using a metaphor of an iceberg floating in the sea. The horizontal dashed line indicates the "water line"; those items above the line are visible, those below are not. Fatalities and serious injuries are certainly visible. Some minor injuries are visible too, but many minor injuries, as well as near misses, may never get reported. Finally, at-risk behaviors are typically the predecessor of close calls and injury. To many organizations, reporting minor injuries, near misses, and at-risk behaviors

**Figure 1 -** Metaphor of Safety-Related Reporting

are typically punished. In these settings, employees get in trouble when seen taking risks or reporting near misses where they were involved. Worse, many companies use a misguided system of providing incentives for the lack of injuries which, conversely, create an environment where employees are punished for reporting because reporting loses the incentive (Geller, 2006, 2009). These tactics all conspire to make this critical information less visible (underwater).

The role of Behavior Based Safety is to reinforce reporting of at-risk behaviors so the true root causes can be uncovered, typically the conditions that create hazards and the management systems that may inadvertently support risk taking. This allows us to identify potential causes of injuries proactively, before they occur, rather than waiting until after they've resulted in an injury.

The same metaphor fits when looking at key performance areas investigated by OBM. For example, we see a similar iceberg for "Quality" as illustrated in Figure 2. Here Major Defects that customers discover are certainly visible and painful. To a lesser extent Minor Defects can also erode a business' market. Good quality control can catch defects before they go out the door by inspecting the products after assembly. However, inspection is not a perfect process and some major defects are not found and stay below the water line. Likewise, many minor defects may never be detected until they turn into a major issue, even though they were known or maybe even caused by some employees. Indeed, behaviors such as damaging products and tool, skipping process steps, and using defective materials and failing equipment can be the predecessor of quality problems. Just like in safety, these quality-decreasing behaviors are typically invisible because they are punished and therefore hidden.

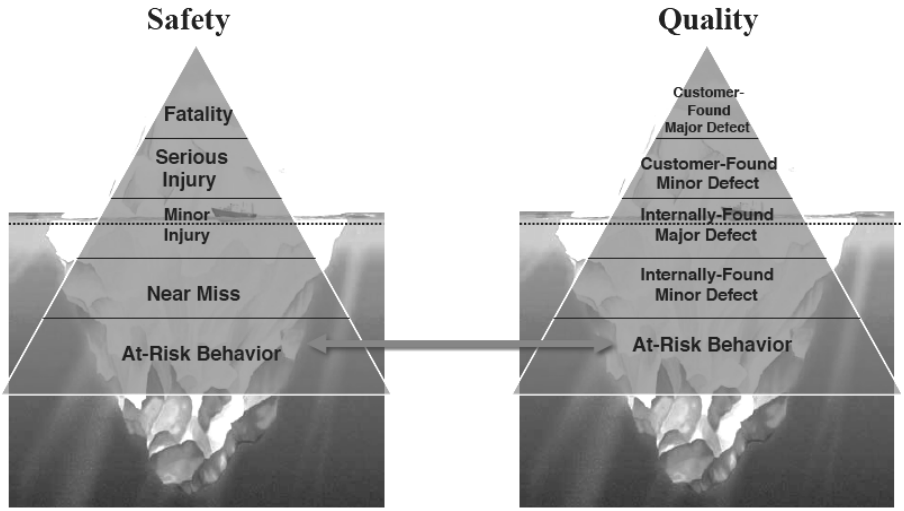



**Figure 2:** Iceburg Metaphor Addressing "Quality"

Both cases illustrate that the behavior of the employee has a critical influence and managing behavior can help avoid substantial human and organizational costs. Or, as is more often the case, employee behaviors can produce substantial advantages. In the most effective BBS programs, OBM-type interventions reinforce far reaching desirable behaviors such as peer-to-peer coaching, using data to make decisions, problem solving, communications with work groups and supervisors, inspecting work, etc. Both BBS and OBM introduce the critical reinforcers into the workplace that support both the desirable work behaviors of employees and the proactive improvement behaviors of managers and employees alike.

The same processes that make BBS efforts successful can also be applied to quality improvement efforts in organizations. BBS gives us visibility and influence over at-risk behaviors and systems that typically are not visable. This same process, when applied to organizational improvement, gives us visibility into the behaviors and systems that are at the root cause of quality or other performance deficits. The OBM and BBS strategies that support all of these outcomes come from the same source of behavior analytic excellence.

## LINKING BBS AND OBM OUTCOMES

There exists emerging evidence that may show the connection between safety performance and other areas of organizational performance. The following case studies were collected by the Cambridge Center for Behavioral Studies (CCBS) Commission for the Accreditation of Behavioral Safety Programs (www.behavior.org). **Figure 3** shows the OSHA recordable rate of incidents from 2000 to 2004 at a Marathon Oil refinery. The original decrease in injuries from 2000 to 2002 corresponded with a substantial change in the percentage of mechanical availability, a key maintenance quality measure resulting from employee behavior such as inspecting

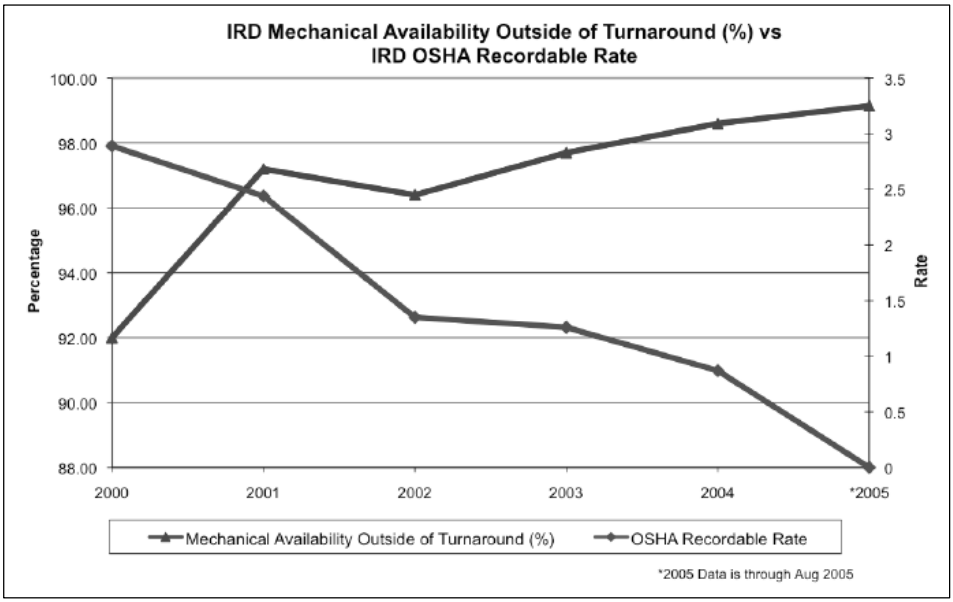



**Figure 3**

their machinery and reporting problems. Employee operators can also easily damage equipment as a result their behaviors. For Marathon, this is an important performance

metric related to both their quality and production numbers. As Marathon continued to

decrease OSHA rates they experienced continued improvement in their mechanical availability. When asked, the safety team reported that the maintenance staff developed their own checklist for machinery inspection, a practice they learned in their BBS program.

Figure 4 shows another success story from a SuperValue grocery distribution center. Their improvement in safety was evidenced by the substantial and sustained reduction in OSHA rates from 1998-2004. Overlaid on this graph is the productivity of this same distribution center over the same period. A potentially misinformed perception among many managers is that safety and productivity are contrary goals. Indeed, increasing productivity involves either increasing the volume of work using the same amount of labor and time or doing the same amount of volume using less labor or time. In either case, employees are being asked to do more in less time which may require faster work and taking shortcuts when possible which in turn can lead to safety incidents.

In this case, safety and productivity do not contradict each other. Instead productivity increased by roughly 40% while safety incidents decreased. The increase in productivity in this distribution center came mostly from increases in volume as more grocery stores were serviced out of the warehouse. However, interviews with management suggested that it was the employee involvement encouraged by their BBS program that allowed them to enlist employee help in figuring out how to efficiently (and safely) bring on the additional quantities of product.

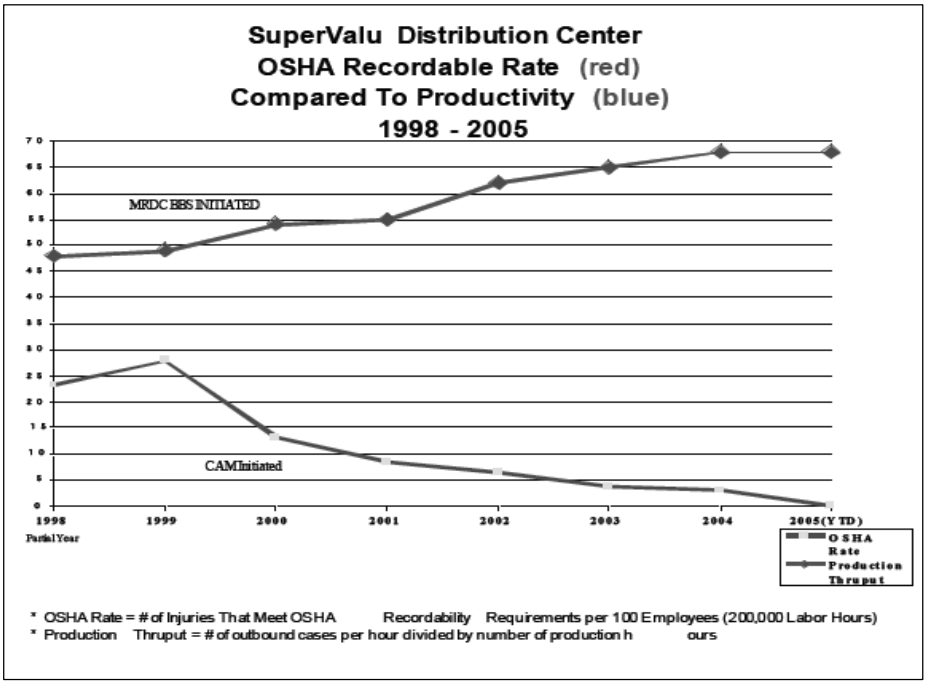



**Figure 4**

In Figure 5 a change in the injury rate at the Acetate Fibers Division (AFD) of Eastman Chemicals was evidenced by a substantial decline in their OSHA recordable rate from 1997 to 2006 with a dramatic drop in 2001. Overlaid on this graph is the AFD's customer complaints measure that referred to defects in their tow and yarn fiber products. The complaints had been relatively sable at around 250 a year leading up to 2001. The major drop in OSHA recordable incidents in 2001 was associated with a notable 40 % decrease in customer complaints. Interviews with the managers of the acetate fibers division of Eastman Chemicals were conducted. They argued that it was the employee engagement within their BBS program that lead their employees to start working on quality issues with their supervision and management using much of the same systems and processes central to their BBS program.

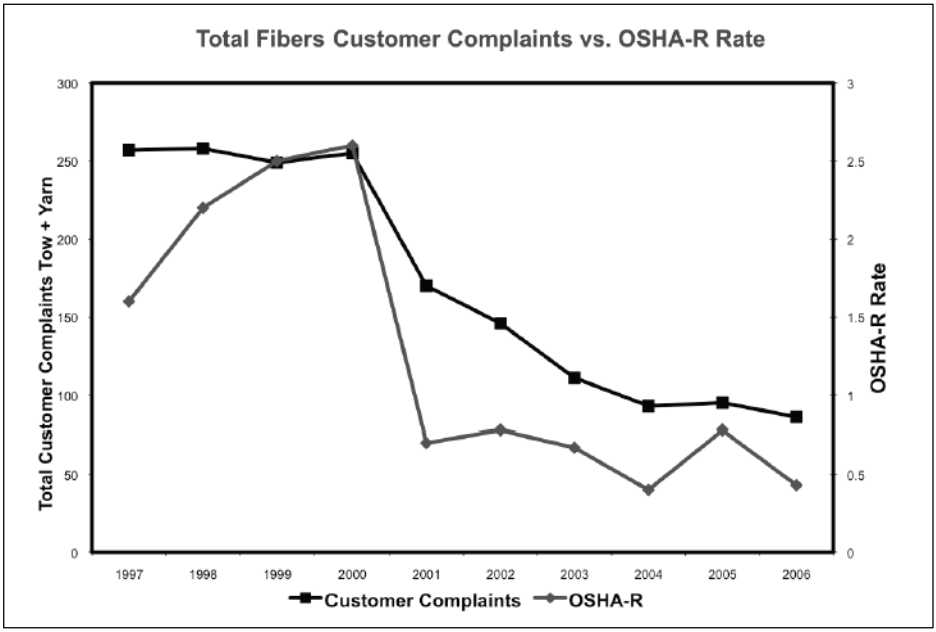



**Figure 5 –** The total fibers customer complaints vs. OSHA-R Rate

It is important to note that these data do not imply that the world-class BBS programs at these companies "caused" improvements in the other areas. Indeed, performance improvement initiatives in within these companies may have impacted both safety and the other performance areas, as could leadership and personnel changes, upgrades in equipment, training, or other "history" variables. But the argument that safety and performance come from the same source of excellence is bolstered by either cause, that of a safety program impacting other areas, or other improvement programs impacting safety.

## CONCLUSION

The fields of Behavior-Based Safety and Organizational Behavior Management compliments each other. The top researchers in OBM helped create BBS. These include Geller, McSween, Sulzer-Azaroff, Komaki, Daniels, and Harshbarger. Their research is prominent in both behavioral safety and OBM. The next "generation" of OBM researchers, Alavosious, Austin, Ludwig, Hyten, Agnew, Gravina, Olsen, Alvero, Cunningham, and Siggurdson (to name just a few), all have contributed substantially to BBS in their scholarship, speaking, and consulting. Because of this, experience with the research in and practice of BBS has helped OBM researchers and practitioners refine their approaches to contingency management. It can be said that nearly all OBM professionals are well-versed in safety. It should also be a goal of all BBS

professionals to become well acquainted with OBM.

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**PUBLIC LECTURES**

# Self-Management in working environment

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**Richard Malott**, PhD, BCBA-D, teaches behavior analysis at Western Michigan University, where he works with students interested in becoming practitioners, rather than researchers. He trains students to work with autistic children and to apply behavior systems analysis and organizational behavior management to human-services settings. He concentrates on training BA and MA students as well as PhD students. Every summer, he runs the Behavioral Boot Camp, an intense 15-class-hour-per-week, 10-week, graduate-level, behavior-analysis seminar for students from WMU and around the globe. Originally, he taught an intro behavior-analysis course to 1000 students per semester, who produced 1000 lever-pressing rats per year. Now, his students only condition 230 rats per year, but they also do 130 self-management projects and provide 13,500 hours of training to autistic children each year. And to further those efforts, in 2008 he founded the Kalamazoo Autism Center. He also coauthored *Principles of Behavior* (the textbook previously known as *Elementary Principles of Behavior*.) Since 1980, he has been working on a textbook called *I'll Stop Procrastinating when I Get around to It*. He has presented in 14 countries and has received two Fulbright Senior Scholar Awards. In 2002, he also received ABA's Award for Public Service in Behavior Analysis. And in 2010, he became president-elect of ABAI. For more information, please see http://DickMalott.com. (DickMalott@DickMalott.com)

**PUBLIC LECTURES**

# The Role of Leadership and Communication in Organizational Change

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**ABSTRACT**

This paper focuses on the role of communication in organizational leadership. We draw upon literature on rule governance to discuss how understanding communication networks and the nature of verbal rules may contribute to understanding of the issues involved in re-engineering coordinated behaviors of teams in organizations. This discussion will include an analysis of leadership communication as related to different teams of employees in organizations.

*Keywords: Leadership, communication networks, rules, derived relational responding, interlocking behavioral contingencies, environmental ambiguity*

The common thread in behavioral account of leadership is the communication between leaders and their employees (1, 2, 3, 4, 5, 6, & 7). As highlighted by the behavioral scientific literature, the role of verbal behavior is crucial to leadership, specifically the role of those instances of verbal behavior known as rules, as it has been argued that much of organizational behavior is maintained by rules (8, 9, & 10).

As has been discussed conceptually (11 & 12) and demonstrated experimentally, no rule and/or implicit rather than explicit (12 & 13) and inaccurate rather than accurate (14) rules generate environmental ambiguity. In the these studies, environmental ambiguity associated with no rule or implicit rule were found to occasion problem-solving behavior among the verbal participants, which in turn led to reduced performance and the self- generation of inaccurate organizational rules on the part of participants. Conversely, explicit and accurate rules, which minimize environmental ambiguity, were found to produce greater and longer lasting levels of performance.

As mentioned Houmanfar et al. (8), many of the communications serve to alter the function of stimuli in the workplace, which in turn impacts employee behavior. Rules or statements that change the reinforcing or punishing effectiveness of consequences (in much that same way the establishing operations nonverbally alter the effect of consequences) have been called augmentals (15). Formative augmentals establish a previously neutral stimulus as a reinforcer or punisher. For example, “If we keep injury

costs under $100,000 for the month, employees will receive a bonus," will probably result in employees seeking feedback on company expenses, possibly a previously neutral stimulus, and attempting to stay below the specified spending limit. Motivative augmentals , on the other hand, alter the effectiveness of stimuli by altering a consequential function. For example, "Saftey is the backbone of our company reputation. If we don't promote safety, we will miss our safety accreditation and stature." This statement takes a stimulus (safety) that already functions as a reinforcer for employees and increases its reinforcing effectiveness.

In a recent study by Rafacz, Houmanfar, and Smith (16), the participatory effect of pre-existing verbal relations and motivational statements on cooperative behavior under different pay for performance conditions were assessed. Results indicated minimal impact of pre-existing social biases on cooperative behavior, however the motivational statements had a significant effect on responding, particularly under financially neutral conditions (profit share).

The abovementioned account of rule governance highlights the importance of functional (17) and topographical characteristics (18) of rules in management of interlock behaviors or organized group practices in organizations. As indicated by Houmanfar et al. (8), "the institutionalized nature of organizational rules requires our focus on not only the shared function they serve among employees but also the topographical characteristics that mediate stimulus control among collectivity of individuals" (p.267).

## MANAGEMENT OF INTERRALED BEHAVIORS & INTERLOCKING BEHAVIORAL CONTINGENCIES

The product or service delivered by an organization does not solely depend on the behavior of a single employee. The behavior of many employees, from many departments, works in concert to bring about the organizational product or service (19 & 20). When the product of the behavior of an employee acts as an antecedent for the behavior of another employee, we have Interlocking Behavioral Contingencies (IBCs) (21 & 22).

For the purposes of this article, we shall limit our focus to teams or units within organizations in order to elucidate the role of verbal products in organizations. The performance of teams relies on several factors that managers can alter in order to facilitate team success. Performance tends to be better when team members share the same goals and are committed to the same task. Establishing shared goals among team members can be accomplished by laying out a clear vision for the team that is in alignment with the goals and mission of the organization. Specifying clear rewards or outcomes that will arise from team success can also aid in increasing the reinforcer value of the team goals. The team will be more committed to the task if the goals are deemed important and team members believe that they can be achieved. If necessary, augmentals can be used to increase the importance of team goals while laying out a clear connection between the team actions and goals – placing feasible team behaviors

in frames of before-after with the team goals – may help increase belief in the possibility of accomplishing the team goals.

The four types of teams are cross-functional teams, self-managed teams, self-directed teams, and virtual teams (23). Cross-functional teams are composed of members from different departments or subunits that are involved in a joint project. The function of the team is to discuss and facilitate the planning and execution of the project or complex activity. The members from different departments can bring their knowledge to bear on the project simultaneously instead of sequentially, thus avoiding missteps along the way. However, due to the lack of a clear hierarchical structure, cross-functional teams do not perform well when self-managed. These types of teams require clear rules about their goals and an emphasis on shared goals as different team members are likely to consider different goals as being more important. Creating a before-after relation between the team's goals and the goals of the department the team member belongs to by suggesting that, "Accomplishing the team's goals will lead to the accomplishment of my department's goals," or using augmentals such as, "The success of the team is crucial to the long-term success of the organization," to highlight the importance of the team's goals are some ways in which leaders can provide these teams with useful verbal stimuli.

### SELF-MANAGED WORK TEAMS ARE GENERALLY

used to produce an outcome that has to be created over and over, such as in manufacturing or process production. These teams tend to be highly interdependent on the activities of one another and the role of management is shared among its members. In other words, there are more IBCs than usual in these teams. Due to their shared history and goals, team members are often more committed to the team goals. These teams also demonstrate improved quality, improved efficiency, and greater job satisfaction. Due to the repetitive nature of their activities, it is probably best to limit the rules that guide of team members' behavior in order to avoid producing an insensitivity to environmental contingencies (e.g., 24 & 25). While rules or augmentals about the team's goals are applicable here, tracks that might be inaccurate or become inaccurate over time might result in rule-following to the detriment of the organization.

Self-directed teams have the greatest amount of autonomy among the teams discussed and are able to function almost as an independent entity from the main organization. While the central organization still retains control over the team, most of the decisions about the team are made from within the team itself. These types of teams are generally observed in small employee-owned businesses and cooperatives. Leadership tends to be distributed among the members of the team and job-rotation, and therefore job cross-training, is not uncommon. While this kind of team is suited to smaller organizations, too many self-directed teams within a large organization can result in the loss of coordination that is essential to the successful functioning of large corporations. These teams tend to rely on self-generated rules that then guide team member behavior. Due

to their tendency to be separated from the rest of the organization, these teams threaten the possibility of losing contact with the overall goals of the organization and might therefore cooperate less or show less concern for the deadlines of others that rely on their activities. The verbal statements provided to these teams ought to focus on augmenting the goals of the company as a whole, for example, by making clear the reliance on the continued existence of the team on the success of the organization.

Virtual teams consist of members that are geographically separated from each other and are therefore reliant on telecommunications technology for their meetings. Virtual teams can be of any of the previously discussed three types of teams, but usually tend to be cross-functional teams. Membership can vary over time in these sorts of teams due to the different commitments team members may have. The challenge that these teams face is the establishment of common goals and cooperation. Due to their distance from one another, mutual trust may be more difficult to create among the members and identification with others in the group may be impeded due to cultural barriers. Simple and accurate rules about the goals of these teams are necessary to establish a focus for the team. Setting up similar contingencies for team members that can be communicated through rules may also be of importance here, as the geographical distance makes it difficult for members to be properly rewarded or held accountable for their performance.

As we see it, in their role as guides to the organization, leaders have to create verbal relations between the current and future state of the organization, between the future organization and its niche in the future environment, and between the current organization's employees and the future organization. Leaders have to take into consideration the ever-evolving external environment and verbally evaluate the potential adaptations the organization can make to those possible futures. These relations ought not to make sense just for the leader, but also for the rest of the people in the organization if they are to behave in accordance with said relations. For, it is not just leaders, but also other employees who are engaged in producing coherent relational networks. To increase the acceptance (decrease resistance to change) and therefore the effectiveness of their messages, management may want to craft messages to suit the circumstances of the organization as well as the situation of the employees. As such, the level of specification of rules can be varied depending on the type of team that the employee belongs to.

**IN CRAFTING MESSAGES, ORGANIZATIONAL LEADER**

may also want to account for conflict of human values -- between tendencies toward tolerance and tendencies toward extremism; between tendencies toward embrace of diversity and the creation of ethnic purity. These types of conflict produce insensitivity to direct contingencies (e.g., insensitivity to the pain of others, and insensitivity to one's own pain) which can negatively impact group cohesion and team work. Our challenge is to help organizational leaders understand the damaging nature of such conflicts and promote the utilization of verbal networking systems that can prevent

their destructive effect on organizational effectiveness and survival. Moreover, inconsistency of communication can result in ineffective leadership in the face of newly changed contingencies. In short, our challenge in designing organizational interventions lies in making explicit and available what is usually implicit. In that regard, we should target organizational contingencies that change practices from ineffectual and destructive to functional and adaptive.

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