Managing Positive Stress for Change in the Implementation of Technology in Schools

Dr. Carol VanVooren
College of Education, California State University San Marcos
San Marcos, California, 92096 USA

Dr. Douglas DeVore
Organizational Leadership, University of LaVerne
La Verne, California, 91750 USA

Dr. Norma Ambriz-Galaviz
Office of Instruction, Mission College
Santa Clara, CA 95054, USA

ABSTRACT

In the Information Age, faculty and staff in large institutions and schools make transformative changes slowly. The implementation of technology as a tool for communication and in classroom integration for instruction is also slow for many educators. However, today there is an urgency to bring the most recent technology systems, applications, and strategies into the educational organization, creating an environment that requires knowledgeable leaders to manage the rapid change. With resistance just a parking lot whisper away, leaders must orchestrate the right amount of stress to create a need in the staff to constantly evolve to a new level of technology implementation. The five positive stress inducing strategies for change, first introduced by DeVore in 1994 [4], have proven to be used by highly effective leaders from elementary schools through college. With leaders trained in these key strategies, the likelihood of faculty and staff commitment to the needed changes in technology integration is greatly increased. Leaders can't wait for the experienced employee to consider using technology as a tool; even elementary students race past the limited and readily outdated technology skills of most teachers. Leaders must create the positive stressors to initiate change for technology in their organizations now.

Keywords: Leading Change, Stressors, Resistance, Technology Integration, Norm Discrepancy

1. INTRODUCTION

According to Lewin life merely exists on a continuum of change events that differ in the amount and type of change [15]. How true Lewin's view on change rings today when we are faced with very rapid technological changes in our personal and professional life. The pace of technology innovation is moving beyond the J curve of change as proposed by Harvey [23]. There is little doubt in our current time of fast-paced, spontaneous change within organizational systems that there is an increasing need for leaders to better understand their role in managing change for technology implementations (DeVore, 1994; Ambriz, 2008; Kotter, 2008) [4][14][22]. Jellison [13] states: "Like a roller coaster, change frightens even as it thrills . . . the fundamental challenge of implementing change is how to help people through their fears and doubts so that they experience the joys of growth and success. Knowing how to deal with these human aspects of change is critical to one's success as a manager and leader".

Bridges suggests that there are different stages of change, and they need to be planned for and managed [25]. It is the intent of this paper to address how change theory and research by DeVore (1994), VanVooren (2005) and Ambriz-Galaviz (2008) can support leaders to implement the five positive stress inducing strategies to craft successful change in technology integration in an educational environment [3] [4] [22].

2. THEORETICAL FRAMEWORK

Volumes have been written on the theory of change over the ages. The birth of Organizational Development during the mid 1900's brought a greater focus on how to lead effective change episodes with an organization, teams and/or individuals. The process of change has been studied for many years and the body of research-based literature is great. Many models of change have been proposed over the years from the accumulated body of knowledge. A common factor across most change models is the need to overcome resistance.

There is clearly a need to understand the strong tendency of individuals to resist change if one wants to successfully implement a change initiative [4]. Resistance to change is a "normal" act on the part of people being affected by the change, and needs to be embraced by the leader of the change episode [2] [17] [19]. The concept of resisting change suggests an action on the part of the person or persons experiencing the change environment. Yukl implies the person resisting the change will actively try to avoid carrying it out [9]. The fact that resistance to change is normal implies that the need to overcome resistance to change must be addressed by the leader to ensure success.

Hans Selye, the "father of stress" research, developed a significant body of work illustrating the potential use of eustress or positive stress as essential to living and behavioral change [10]. Leahy's work indicates that a person with low or no stress will tend to stay in a state of status-quo; whereas too much stress or 'distress' can interfere with a person's productivity and ability to change [18]. Thus, the level of stress induced to create change and the perception of that stress has an effect on the amount of resistance that is developed. Although positive stress also creates resistance, this can be more easily managed.

Framework for Managing Positive Stress

DeVore examined the concept of managing levels of positive stress to orchestrate the implementation of various educational

change episodes [4]. DeVore proposed and conducted research using a five category positive stress-inducing framework. His study provided evidence on the existence and use by leaders of stress-inducing strategies or stressors [4].

Van Vooren [3] and Ambriz-Galaviz [22] replicated the work of DeVore [4] and his framework for managing positive stress. These research studies provided statistical evidence to validate DeVore's framework and the use of stress to craft change in various settings. The five categories of stress-inducing strategies or stressors are: 1) authoritative command; 2) evaluation; 3) norm discrepancy; 4) sanctions and 5) targeting.

Authoritative Command: This stressor implies that there is a positional power of authority between the leader and the changee. The use of authoritative command suggests that the leader of the change can affect or influence the change behaviors of others via a direct request or command. An example that illustrates this strategy would be the school principal or head administrator issuing a statement that all future internal operational communication will be handled by e-mail. This edict makes a large assumption that faculty has available technology and the skills to use it. Certainly those unprepared would get trained in the software and find a work station to receive messages as soon as possible to avoid conflict with the authoritarian leader.

Evaluation: The use of evaluation is a way of making a judgment, positive or negative, regarding the actions of a person/team the leader oversees, and providing them with constructive feedback. Evaluation can be a very effective stressor if the leader is thoughtful about its use to support a change environment. For example, a distance education committee charged with establishing the standards of online instruction for the organization also assumes the responsibility of providing specific overview to individuals instructing the classes. The committee's feedback becomes part of the evaluation for the faculty member each year. This puts the stress on the faculty member to adapt his or her class to the established standards and requirements outlined by the committee in order to have a positive evaluation.

Norm Discrepancy: This stressor category has its roots in the difference between what is and what is desired. Research indicates that when people are presented with what currently exists versus a more desirable state, a tension or pressure exists to move towards the more desirable state. It is possible to develop a negative effective if there is an overload of the desired state and insufficient means of getting to that state. If one does not have the ability to move to the desired state, frustration sets in and the ability to change is impaired. An illustration of the norm discrepancy strategy is when a teacher or grade level develops a sensational webpage; others employees in the same organization see it, and soon most staff members have improved their web pages. People are naturally competitive and join in the race to improve when they see others doing well.

Sanctions: By definition, a sanction can range from mild forms of withholding a reward to very specific, stress inducing threats. A number of theorists have demonstrated that forms of sanction can be used as a positive means to influence human behavior [4] [16] [21]. The stress-inducing framework is focused on the mild forms for withholding reward or opportunity to create a positive stressor. This type of sanction can also include withholding something the person/team likes to do, if given the opportunity. An example of this strategy would be a school district's request for the sites to implement the technology standards. Those schools that do not implement the standards would take a cut in their supplies funding. This type of stress motivates some to respond, while others might say that it isn't fair.

Targeting: Targeting can be used as a stressor by bringing recognition upon an individual or team with the intent to motivate and/or change their behavior [7]. The research project at the Hawthorne Plant of the Western Electric Company in Chicago in the late 1930's offers evidence of the power of targeting or recognition [8]. The researchers of this famous study concluded that the 'attention' the workers received actually caused a positive change in production. This phenomenon is now termed the "Hawthorne Effect". In current times, an example used by institutions would be the public recognition of innovations or creativity by a team or department in fulfillment of their organization's mission for technology implementation. The team or department is offered some type of recognition certificate, luncheon/dinner, or possible bonus.

3. HOW DOES IT WORK?

The research to date indicates that thoughtful leaders of technology change initiatives should be cognizant of the five category positive stress-inducing framework and craft strategies for the use of appropriate stress. According to the DeVore, Van Vooren, and Ambriz-Galaviz studies [3] [4] [22], the most frequently used strategies are norm discrepancy and targeting, while authoritative command, evaluation, and sanctions are the least likely of the strategy choices used by successful leaders. However, all five strategies are used to some extent in leading technology change episodes. The evidence confirms the importance of this framework in the educational setting and strongly suggests the importance of its use in other types of organizations.

The key to using the five category positive stress-inducing framework is to be mindful of the need for, and the degree of, using a particular stressor based on the current motivation of the individuals or team. The leader needs to "turn up the heat" gently to motivate, but not so high that it can impede the desired change. For example, in the K-12 educational field, the implementation of a particular technology in the classroom will call for the different use of stressors depending on the individual teacher. Newer teachers or employees that are technology "natives" will need less stress applied to adapt to changes in technology than a veteran teacher who doesn't believe the changes in technology integration will improve instruction.

Another example is the implementation of a new Enterprise Resource Planning (ERP) system, designed to address the problem of fragmentation of information in business organizations. The leader of this change episode should consider which of the five stressor categories will best work for the implementation given their staff needs. For instance, the use of norm discrepancy would certainly be an appropriate stressor given this strategy focuses on what is, versus what is desired. Evaluation and targeting could also be appropriately

used with management level employees charged with carrying out the different steps of implementation for the ERP System.

4. CRITICAL DEMAND FOR TECHNOLOGY

Today's schools and organizations are challenged with tightening budgets, rising accountability mandates, technological advances, and the continuous demographic changes within the institutions. Engaging the younger student requires the integration of technology tools as part of the learning experience. The educational systems from K-12 and the State California Community Colleges have all presented rationale for the progressive use of technology integration by current educators. For example as early as 1997, the National Council for the Accreditation of Teacher Education (NCATE) claimed that the new professional teachers of 21st Century "should help students pursue their own inquiries, making use of technologies to find, organize and interpret information and to become reflective and critical about information quality and sources" [7].

Following the No Child Left Behind Act of 2001, the California Department of Education (CDE) began funding statewide services designed to promote effective use of technology in the classroom. Jack Scott, Chancellor of the California Community Colleges stated 2009-10 challenged instructional practices due to an eight percent state budget reduction, while serving a three percent state-wide enrollment increase. He views this economic downturn as an opportunity for "colleges to fully utilize technology as a resource during these fiscally stringent times" [8]. Dr. Scott [8] encourages innovation by colleges, especially in the use of online instruction, computerization of basic skills instruction in math and writing, and the use of academic advisement through online resources. These new approaches will maintain access to post-secondary education as well as increase course offerings to colleges with reduced facilities.

In the midst of the Information Age, Draves and Coates (2004) reference the development of technology and its influence on every aspect of life, from national and global economics to the impact of the internet and related technology tools such as Facebook and Twitter [6]. As educational organizations move toward prioritizing technology tools for instruction they will need to address a wide diversity of perspectives and range of skills for teachers and students. This will increase the need for change and the likelihood of resistance.

The organizational commitment and/or implementation of blended (partially online and partially face to face) or online learning environments require effective leadership, planning and fiscal commitments from school districts and organizations [11]. An investment must be made on a continuous basis for the training of teachers along with upgrades to the technology, such as servers, connections, protocols, and course management systems. During the years of limited funding, schools, colleges and organizations must wisely select the technological investments that maximize the users' access and ease the resistance to adopting the change. This may require organizations to offer effective options utilizing technology that go beyond the traditional face to face classroom. When online or online hybrid courses develop, the leadership of these organizations needs to find the right employees and manage the stress of change in order to implement the technology resources effectively with their stakeholders, communities, and students [24].

5. THE USE OF POSITIVE STRESSORS FOR THE IMPLEMENTATION OF TECHNOLOGY

Organizational leaders must assess the level of stress and resistance its employees could experience, while pushing the organization toward the technological changes needed to remain competitive. Morrison indicates that the use of proven strategies enables a leader to lead change, manage transitions and create momentum toward the desired change [15]. The leader is able to create a scenario by which participants can connect with the suggested change and begin to envision the change initiatives [1] [14]. For example, the stress inducing strategy of norm discrepancy will help educators compare their practices with other schools and see for themselves that delivering their course content in a variety of options can lead to a positive outcome. This allows individuals to use peers as a resource and embrace the change to move forward toward the new and unfamiliar aspects of the technology integration change initiative.

The proper selection of one or more of the five stress-inducing strategies: authoritative command, evaluation, norm discrepancy, sanctions, and/or targeting by organizational leaders to facilitate change will increase the effectiveness of implementing technology tools for teaching and learning. Earlier examples of the five stress inducing strategies took into account the leader's ability to select the strategy best suited for his or her circumstance and the level of stress the teacher can take in terms of readiness for implementation. Along with the acceptance that uniform solutions do not work for all employees, schools, or organizations, selection of the appropriate stress-inducing strategy for change reduces resistance and leads to increased success.

6. CONCLUSION

In summary, leaders in education and other organizations are confronted with a multitude of changes in the environment of technology implementation as both a tool for communication and organization, and a strategy for instruction. The amount of pressure put on the organization and its employees by the leader to adapt to new technology will directly relate to the resistance that forms around technology implementation. As DeVore's model for the five positive stress-inducing strategies are introduced into organizational environments, leaders must manage the resistance and facilitate the process for change toward the desired technology integration goals in our schools.

REFERENCES

[1] Allan R. Cohen and David L. Bradford, Influence without Authority, Hoboken, NJ: John Wiley and Sons, 2005.

[2] Brien Palmer, Making Change Work: Practical Tools for Overcoming Human Resistance to Change, Quality Press,

Milwaukee, Wisconsin, 2004.

[3] Carol Van Vooren, A Model for School Reform: The Principal's Use of Positive Stressors to Change Teacher Behavior in Title I Elementary Schools. Ed.D. diss., University of La Verne, 2005.

[4] Douglas P DeVore, Managing the Force of Positive Stress to Craft Change, Ed.D. diss., University of La Verne, 1994.

[5] Elizabeth A. Ashburn and Robert E. Hoden, Meaningful Learning Using Technology. New York: Teachers College Press, 2006.

[6] Eugene Provenzo, The Internet and the World Wide Web for Teachers, Boston, Massachusetts: Allyn & Bacon, 2002.

[7] F. Herzberg, B. Mausner and B. Snyderman, The Motivation to Work, New York, NY: Wiley, 1959.

[8] F.S. Roethlishberger, The Internet and the World Wide Web for Teachers, Boston, Massachusetts: Allyn & Bacon, 2002.

[9] Gary Yukl, Leadership in Organizations, 7th Edition, Prentice Hall, Upper Saddle River, New Jersey, 2009.

[10] Hans Selye, Selye's Guide to Stress Research, New York: Van Nostrand Reinhold, 1980.

[11] Jack Scott, Living in Difficult Times, Community College League of California Conference, San Francisco, CA November 19, 2009.

[12] Janet Ward Schofield and Ann Locke Davidson, Bringing the Internet to School, San Francisco, CA, Jossey-Bass, 2002.

[13] Jerald Jellison, Managing the Dynamics of Change: The Fastest Path to Crating an Engaged and Productive Workplace, McGraw-Hill, New York, NY., 2006.

[14]John P. Kotter, A Sense of Urgency, Harvard Business School Publishing, Boston, Massachusetts, 2008.

[15] Keith Morrison, Management Theories for Educational Change, Thousand Oaks, CA: Sage, 1998.

[16] Kurt Lewin, Resolving Social Conflicts, New York: Harper and Row, 1948.

[17] Lester Coch and John R. P. French Jr., "Overcoming resistance to change" in Management and Organizational Behavior Classics, 7th ed.

[18] Lynn Leahy, Under Pressure. Training Journal, August 2008, 26.

[19] Michael Matteson and John Ivancevich, Boston, MA: Irwin-McGraw, 1999.

[20] Morrison, Keith, Management Theories for Educational Change, Thousand Oaks, CA: Sage, 1998.

[21] Newton Margulies and John Wallace, Organizational Change: Techniques and Applications, Glenview, IL: Scott, Foresman and Co., 1973.

[22] Norma Ambriz-Galaviz, The Use of Strategies among California Community College Chief Administrative Officers to Produce Change, Ed.D. diss., University of La Verne, 2008.

[23] Thomas R. Harvey, Checklist for Change, 2nd ed. Lancaster, Pa.: Technomic Pub. Co., 1995.

[24] William A Draves and Julie Coates, Nine Shift: Life and Education in the 21st Century, River Falls, WI: LERN Books, 2004.

[25] William Bridges, 'Both Change and Transition must be Managed', HR Monthly, p. 14, AHRI, Sydney, May 1996.