Lead change with the brain in mind

Dr. Jim Whiting, Elizabeth Jones, Dr. David Rock and Xenia Bendit

This article was published in the

NeuroLeadership Journal

ISSUE FOUR

The attached copy is furnished to the author for non-commercial research and education use, including for instruction at the author’s institution, sharing with colleagues and providing to institutional administration.

Other uses, including reproduction and distribution, or selling or licensing copies, or posting to personal, institutional or third-party websites are prohibited.

In most cases authors are permitted to post a version of the article to their personal website or institutional repository. Authors requiring further information regarding the NeuroLeadership Journal’s archiving and management policies are encouraged to send inquiries to: info@neuroleadership.org

www.NeuroLeadership.org
The views, opinions, conjectures, and conclusions provided by the authors of the articles in the NeuroLeadership Journal may not express the positions taken by the NeuroLeadership Journal, the NeuroLeadership Institute, the Institute’s Board of Advisors, or the various constituencies with which the Institute works or otherwise affiliates or cooperates. It is a basic tenant of both the NeuroLeadership Institute and the NeuroLeadership Journal to encourage and stimulate creative thought and discourse in the emerging field of NeuroLeadership.

NeuroLeadership Journal (ISSN 2200-8535) Issue Four published in October 2012. We encourage readers to propose a paper for the next edition of this Journal. We recommend sending in a two-page proposal before submitting a finished paper and welcome pure science, as well as case studies and discussion pieces. For further information as to how to submit a paper for the next Journal go to www.NeuroLeadership.org
Organizational transformations are challenging, even under the best of circumstances, with overall success rates at about 30%. (McKinsey Quarterly, 2010). One of the toughest tasks is to maintain employee engagement and motivation in the midst of uncertainty created by wide scale organizational change.

This case study discusses how one company incorporated key neuroscience principles into a major company-wide change initiative so that its leaders could minimize the impact of change while maintaining employee engagement and focus. The study also reviews survey results that measured whether or not positive statistically significant changes occurred in management behavior as a result of the training, from the perspective of both manager-participants who attended the training, and manager-participants’ subordinates.

The study took place in a global telecommunications organization with a presence in over 100 countries. Due to substantial competitive market forces, this organization was under intense pressure to transform performance quickly. The company was undergoing wide scale change that included realigning resources for: growth in profitable countries, regions, business lines and markets; layoffs and divestitures in least profitable countries, regions, business lines and markets; labor union negotiations, and; communication and implementation of additional cost-containment and prioritizing profit making strategies.

The official spoken language of the company was English, although many managers and employees in the company were multilingual, commonly speaking two or more languages fluently. Team membership and working relationships often transcended geographical boundaries, with many teams commonly working in a virtual environment (not co-located at the same physical site). For example, managers and employees on a team often were based in different countries, meeting virtually via conference or video call, and very rarely meeting face-to-face (perhaps once or twice a year). Being able to work in a cross-cultural environment was considered a core competence at this company.

Significant company change initiatives included shifts in business strategies, major reorganizations and layoffs in all business functions globally. Given the wide scope of the change initiative and anticipated difficulties with the needed changes, the company was challenged with how to keep leaders, managers and employees focused and productive.
Specifically, the company wanted to support leaders and managers by equipping them with skills to lead the organizational change powerfully and minimize the disruption of change. The client was willing to go beyond conventional leadership programs and was interested in helping their managers make new connections about how to manage change more effectively based on leadership theories related to neuroscience. The goal was to help leaders better understand and manage their own reactions to change from a brain-based perspective as well as help them facilitate high-quality conversations about organizational changes with employees to maximize employee engagement and motivation. The client was also eager to continue to build leadership capabilities that would contribute to long-term effectiveness beyond the immediate needs of the restructure. This organization recognized the importance of “intentionally addressing the social brain in the service of optimal performance” (Rock, 2009) as an important leadership capability.

This organization recognized the importance of “intentionally addressing the social brain in the service of optimal performance” as an important leadership capability.

The company’s goal was to quickly develop and roll out a highly effective program that could be delivered virtually to 700 managers worldwide while major organizational changes were in process.

The Focused Manager program highlighted in this case study was part of a larger company wide initiative to provide employees at all levels skills to adapt to and work successfully in the changing environment.

Program overview and objectives

The Focused Manager program was delivered via five teleconference classes (1.5 hours each) in groups of 20–25 participants using the best practices approach of HIVE™ (High Impact Virtual Experience) technology developed by the NeuroLeadership Group (see more detailed description of HIVE™ below). This solution allowed program delivery to be scaled very quickly worldwide while minimizing costs.

The aim of the program was to introduce neuroscience-based skills and models to equip managers to deal more effectively with the “people issues” of organizational change so that employees could maximize collaboration and maintain positive focus.

The Focused Manager program was designed to enable managers to lead change from a neuroscience perspective by understanding the following:

- How and why change is hard at a biological level
- How to turn overwhelming threats into manageable threats
- How to help others see the future in the face of change and potential threat
- How to regulate their own and other’s emotions effectively
- How to have tough conversations in a brain friendly way
- How to maintain attention, generation, emotion and spacing to maximize engagement and learning

In addition to education, the program was designed to build skills in these areas so that managers could proactively increase individual and team engagement with the change initiative. Each teleconference class included theory, practical models and then real-time practice using actual workplace scenarios. In between classes, participants completed reading and writing assignments as well as partner exercises to further embed their learning.

The three specific objectives of the Focused Manager program were to equip managers with the tools to:

1. Lead the restructure (both strategic and organizational changes)
2. Deal with conflict
3. Focus the team

The underpinning theory for the program was a three-step brain-based change model that addresses what it takes to create successful change:

1. Create a “toward” state – help people feel safe enough to think about the future
2. Facilitate new connections – help people think in new ways
3. Embed new wiring – help people develop new habits

This high level change model was developed by David Rock and first presented at the NeuroLeadership Summit in Los Angeles in 2009.

Each of the five modules of the training program were designed to help managers understand the biology behind important brain functions and to provide them with useful tools so that they could create new, more easily
accessible mental maps for themselves about how to help themselves and their employees stay in a more positive mental state. The result would be improved thinking and better decision-making for the entire organization. Below is a summary of the key ideas and underpinning theory covered in each module.

Focused manager modules and key neuroscience theory

**Module 1: Set the direction – conversation about what’s ahead**

**Focus:** Create a “toward” state – help people feel safe enough to think about the future

**Synopsis:** Participants learned what the brain needs in order to change and how to have conversations about the future in the face of significant change. The brain’s organizing principle – to minimize threat and maximize reward – was introduced in the context of organizational change. Participants completed the first session practicing using specific tools to support themselves and others to have more effective conversations about their own – and the company’s future during the change.

**Key neuroscience theory:**
Understanding the brain’s organizing principle of minimizing danger and maximizing reward (Gordon, 2000) helped managers gain a better appreciation of how difficult change can be for individuals. Wide scale corporate change creates uncertainty and fear – messages that the brain interprets as threat. The result is employees react with a fear response (fight or flight) and cannot contribute their best thinking (Arnsten, 1998).

Organizational change is a complex topic and requires a lot of conceptual thinking about future events – a task that requires a lot of cognitive resources. Managers learned how to help themselves and others get into a more positive mental state (toward state) so they could engage much needed cognitive resources for more effective problem-solving, creativity, collaboration and innovation.

The SCARF model (Rock, 2008) was introduced as an important model to help managers understand the five domains of social experience that the brain is always monitoring. Managers practiced using SCARF in team meetings and one-to-one conversations to help offset threats created by the change initiative. The goal was to help managers and their direct reports feel safe enough to have productive conversations about a vision for the future and next steps.

The SCARF model was introduced as an important model to help managers understand the five domains of social experience that the brain is always monitoring.

**Module 2: Get into action: turn strategy into action**

**Focus:** Facilitate new connections – help people think in new ways

**Synopsis:** Participants were introduced to a framework that maps the flow of change conversations, from being stuck (impasse) to uncovering new thinking (insight), to generating actions likely to create change (action) and then embedding new behaviors over time (habit) (Rock, 2006).

The framework can lead to shorter, more effective in-person or virtual conversations that help someone think more clearly and move more quickly into motivated action. Questioning skills to help facilitate insight in others were introduced as part of the framework.

**Key neuroscience theory:**
Successful organizational change requires that employees create new mental maps for how to move forward with a fresh perspective. In change conversations, the goal is to teach managers how to help employees think in new ways by skillfully facilitating insight in others when faced with challenging situations or problems rather than simply “telling” direct reports the answers.
Although a manager’s role is to share important information to set the direction during change, he/she can build commitment and create alignment by facilitating conversations that invite employees to think about the future for themselves – filling in the gaps and connecting to where they are going and what it might mean for them personally.

The conversation framework introduced in this module helps structure a conversation in a “brain-friendly” way so that the domains of SCARF are respected throughout the dialogue. Skills such as asking permission, providing a clear context for the conversation and engaging the employee through skillful questioning can improve status, certainty and autonomy. The framework also keeps the conversation “solution-focused” to minimize activation of strong emotions that can result from a problem focused approach. The framework is a roadmap to help managers actively engage the other person in identifying ways to move forward from a challenging situation.

The active ingredient in facilitating change is supporting others to generate their own insights about how to move forward.

The active ingredient in facilitating change is supporting others to generate their own insights about how to move forward. Insight matters in change conversations because the moment of insight changes the brain in a way that linear problem-solving does not (Ludmer, Dudai & Rubin, 2011). Research shows that learning through insight is also more memorable than non-insight. New networks are created in the brain that help us see a situation in a totally new way. It can positively affect SCARF domains, like “status”, since status increases as a result of solving a problem for oneself. Insights are rewarding because it gives the brain a boost of dopamine (novel connections) and releases energy. Because of the burst of energy and the satisfaction of solving a problem on your own, insight creates a greater sense of ownership of the idea as well as the motivation to put the idea into action. When managers and employees alike see their way forward in change as a result of their own insights, buy-in and support of the change are more likely to happen.

Module 3: Work through challenges: hard conversations

Focus: Emotional regulation strategies for self and others

Synopsis:

Emotional regulation is one of the most important elements for managers in today’s stressful and complex business environment – especially during times of wide scale organizational change. Having the ability to “stay cool under pressure” is key for maintaining focus and clear thinking. In this module, participants reviewed the impact of stronger emotions on higher level cognitive processes and the implications for managing effectively. They learned tools to regulate their own mental state so that they could better manage their own emotional response to their world.

Managers also discussed how to use these strategies to reduce conflict in difficult workplace conversations so that people can stay in a more positive mental state and re-engage more quickly with their work.

Neuroscience theory:

As discussed earlier, the dynamics of organizational change can result in employees feeling quite threatened and resistant to change – just at a time when the organization most needs creativity and great decision-making from its employees.

Managers gained a greater understanding of the role of the limbic system as it tracks emotional responses common in change such as anxiety, fear, anger and uncertainty. The resulting threat response impacts important cognitive capacity since resources such as oxygen and glucose are reduced in the prefrontal cortex (PFC). Reduced functioning happens quickly and in many cases, without conscious awareness. When the limbic system is over aroused by threat, “the complex maps in your prefrontal cortex required for conscious processes don’t function as they should.” (Rock, 2009) We can certainly continue to make decisions under pressure “stay cool under pressure” is key for maintaining focus and clear thinking.

Having the ability to “stay cool under pressure” is key for maintaining focus and clear thinking. Threat responses also cause us to err on the side of pessimism as we respond to our environment – especially during times of wide scale organizational change. Having the ability to “stay cool under pressure” is key for maintaining focus and clear thinking.

The emotional regulation tools outlined in Gross’s (2003) process model for emotional regulation were introduced so that managers could employ regulation strategies before and after an emotional response kicks in. Emphasis was placed on tools to help with cognitive change: labeling and reappraisal.
Finding the right word to identify an emotional sensation is a technique called labeling (Lieberman, 2009). The act of searching for and identifying a word that describes a feeling activates the right ventrolateral prefrontal cortex, the region that is central to any type of braking in the brain. Labeling can dampen down the limbic system and engage the brain’s braking system so that critical resources increase in the PFC.

**Emotional regulation is one of the most important elements for managers in today’s stressful and complex business environment...**

When stronger emotional responses are in play, cognitive reappraisal is a second tool for helping managers “stay cool” (Ochsner, 2008). Engaging the PFC in order to think about a situation from a different, more positive perspective increases activation of the right and left ventrolateral prefrontal cortex. At the same time, the activation of the limbic system is reduced.

The third technique introduced was “direct experience” - the ability to be fully present in the moment without the interference of the brain’s narrative circuitry (Farb et al., 2007). When the direct experience network is activated, the body and brain are able to process more incoming data in “real time” so that one is able to more accurately experience the reality of an event. The result is that one might take in more information that helps improve decision-making. Helping managers learn to change the focus of their attention from the narrative network (our default) to the direct experience network not only increases their ability to take in more external data, but also increases awareness of their own internal mental state. Increased internal awareness can lead to smarter choices about actions and quicker access to emotional regulation techniques.

**Module 4: Implement the change: even harder conversations**

**Focus:** Integrate key learnings from previous modules and apply to challenging one-to-one and team conversations occurring in-person and virtually.

**Synopsis:**

A framework was introduced for managing team conversations about change so that team members feel connected and focused on what’s next. This framework builds on the conversation framework introduced in module 2 and guides a team in dealing with an impasse, facilitating new insights, generating actions and embedding new effective behaviors as habits. Participants practiced using this framework as well as emotional regulation strategies with challenging workplace conversations.

Best practices of working effectively in virtual environments were introduced, drawing on the HIVE™ (High Impact Virtual Experience) best practices also used by the facilitators of the Focused Manager sessions.

**Neuroscience theory:**

The conversation framework is designed to structure the thought processes and interactions of a team so that the threat response of a challenging meeting is offset for both the manager and employees. Managers learn to actively manage the domains of SCARF throughout a meeting so that team members are in a toward state and actively engaged. This occurred through both labeling (Lieberman, 2009) and the offsetting effect which involves creating rewards in other SCARF domains to offset the total threat response (Dixon, Rock, & Ochsner, 2010).

The framework guides the manager in how to be a facilitator -- not a driver of a meeting so that team status is built and autonomy is protected. Inviting the group to set meeting expectations, add to agendas and actively contribute their ideas helps create a greater sense of autonomy. The “solution focus” of the meeting framework creates certainty for a team that the conversation has a useful, positive direction. Managers also learn that helping the team generate “stretch” goals can add a just enough “healthy threat” to inspire a team to find ways to work together.

In organizational change, teams are often asked to work toward goals that are new to them – ones that they do not have existing brain maps to rely on. Managers can facilitate insights from a group – just as in a one-to-one conversation, so that the team sees a new way forward. New ideas can increase team status as well as generate energy to move the team into setting actions.

The framework can be extremely useful for incorporating new team members so that all team members begin to relate to each other as “in-group” (instead of “out-group”) members.
Module 5: Engage the change: move your team ahead

Focus: Embed new wiring – help people develop new habits

Synopsis:
Participants focused on three ways to support others to develop and sustain new ways of behaving as they work with the organizational change:
• managing the flow of a change conversation to create greater accountability and ownership with self-directed feed-forward
• set actions and develop new habits with implementation intentions
• deepen new learning and behavior with quality follow-up

This final module was also designed for participants to continue integrating the models learned in the previous four modules.

Neuroscience theory:
Giving feedback to others in order to improve performance and facilitate change often results in a strong threat reaction unless handled well. Threats to status, autonomy, relatedness and fairness can be easily activated when a manager approaches a feedback conversation by telling an employee what is wrong, and how to fix it. (Dixon, Rock & Ochsner, 2010a). Focusing on the problem during a feedback conversation can also increase limbic arousal and negatively affecting the cognitive resources available for effective problem-solving.

Giving feedback to others in order to improve performance and facilitate change often results in a strong threat reaction unless handled well.

Changing behavior through feedback is also difficult because of the brain’s strong “habit system” which has evolved to conserve energy by reacting to stimuli by drawing on stored past patterns and therefore, resisting change. (Dixon, Rock & Ochsner, 2010b).

...chances of change improve when an employee identifies a goal and creates the goal statement in an “if-then” format...

As a result of self-directed feed-forward, chances of change improve when an employee identifies a goal and creates the goal statement in an “if-then” format; an implementation intention. Implementation intentions give the brain a very specific cue to scan for – “If I find myself getting frustrated in a meeting” – and a very specific action to take – “I will take two deep breaths before sharing my thoughts.”

“By forming an implementation intention, the mental image of the specified situation or cue becomes highly activated and more readily accessible” (Gollwitzer & Brandstetter, 1997). A more general goal intention to change such as “I will handle my emotions more effectively in meetings” is too abstract for the brain to scan for effectively. The constant monitoring required for a more general goal is taxing to the brain’s resources and may be easily overridden by other distractions such as anxiety or a new short term goal. (McDaniel, Einstein, Graham & Rall, 2003).

The third strategy for helping others embed new habits is quality follow up in the form of acknowledgement. When managers give authentic positive feedback to an employee,
they are highlighting the behaviors they want to see more of. Acknowledgement is a way of reinforcing new wiring and maps for that person and cueing the brain to “do more of that action.” When a behavior is new, the brain circuits are fragile until the behavior is repeated often enough to be hardwired. Acknowledgement can be very useful to help an employee keep attention focused on new ideas and behaviors long enough to make strong neural connections.

Acknowledgement of others for how they are growing, learning and challenging themselves can support a growth mindset (Dweck, 2006) that drives engagement and improved performance.

Many of us are our own “worst critics” and we easily find fault in ourselves – without the help of our colleagues or managers or the dynamics of organizational change. The result is a noisy brain that may be in a threat state as a result of our problem focus. Even mild threat states interfere with our ability to think and perform at our best. Acknowledgement can be a powerful tool to help managers shift others into a quieter more positive brain state and better thinking.

Delivery methodology – HIVE (High Impact Virtual Experiences)

In order to be able to scale delivery of the Focused Manager program quickly without losing quality, HIVE™ methodology was used. HIVE™ technology is based on neuroscience research findings about how to optimize learning experiences so that information can be remembered and recalled easily. Attention, generation, emotions and spacing are important components of what the brain needs to remember information (Davachi, Kiefer, Rock, & Rock, 2010).

The overall strategy of scaling learning quickly using HIVE™ is to:

- Deliver virtual programs in real time (not recordings) with very high participant engagement
- Focus participants’ attention for short bursts (60–90 min.) in small groups (12–24 people)
- Distribute class time over several weeks (i.e. once a week) to allow participants to more fully integrate information
- Combine class time with structured “homework” assignments to further embed learning

During the telecalls, HIVE™ best practices of facilitation hold the attention and focus of the learner so that valuable learning can take place. These best practices were shared during the Focused Manager program so that managers could run more efficient, effective virtual meetings – a valued skill in a global company.

Survey results study

Study design

This study used a quasi-experimental, quasi pre-post design, with the intent of approximating whether or not positive statistically significant changes occurred in management behavior as a result of the training, from the perspective of both manager-participants who attended the training, and manager-participants’ subordinates.

For the sake of this study, quasi-experimental implies the lack of control group measures, while quasi pre-post means the use of a Likert scale that recorded “before” and “after” measures at a single survey event, as measured by a one-tailed paired samples t-test. For example, manager-participants were asked to rate their own behavior before and after the training, at one point in time in a single survey, as compared to having manager-participants complete two surveys, at two separate points in time (once before, and then after, the training); similarly, subordinates were asked to rate their manager’s behavior change (if any), before and after the training at a single point in time as previously described above. The study design included having subordinates rate their managers, as a method to cross-validate participant-manager survey results, as it was expected that managers could have inflated self-ratings, due to reasons associated with social desirability biases.

A quasi pre-post design was used because of the need to reliably maintain the confidentiality and anonymity of respondents. For example, within this organization’s context, it was unacceptable to attempt to have survey respondents complete one survey at a certain point in time (pretest), and then to specially code (e.g., using a unique identifier) and...
later redistribute a second survey to the same set of survey respondents (post test), to ensure valid pre-post respondent survey data pairings for each respondent. Moreover, even if it were the case that surveys could have been administered reliably and separately on two distinct occasions to each respondent, so the responses could be accurately paired for each respondent, a potential concern could have been the lower response rates associated with having each manager-participant and subordinate respond twice (instead of once) to yield usable data for a paired sample t-test.

The sample of 544 manager-participants in the study was drawn from the organization, with an attempt to represent populations in various regions, and different managerial levels. All managerial levels, from frontline manager to executive, were represented in the study population.

The study hypotheses was that training would result in a positive increase in manager performance; therefore one-tailed paired samples t-tests, with an alpha of .025, were used in SPSS to calculate potential shifts in manager behavior, as independently self-rated by manager-participants, and rated by subordinates. In order to help control for potential problems associated with missing data, only fully completed surveys were used to calculate the findings below.

The organization and NeuroLeadership Group collaborated on the definition of program effectiveness questions included in the manager-participant and subordinate surveys, as shown below in tables 1 and table 2.

The study hypotheses was that training would result in a positive increase in manager performance; therefore one-tailed paired samples t-tests, with an alpha of .025, were used in SPSS to calculate potential shifts in manager behavior, as independently self-rated by manager-participants, and rated by subordinates. In order to help control for potential problems associated with missing data, only fully completed surveys were used to calculate the findings below.

The organization and NeuroLeadership Group collaborated on the definition of program effectiveness questions included in the manager-participant and subordinate surveys, as shown below in tables 1 and table 2.

### Table 1: Manager-participant survey program effectiveness questions

<table>
<thead>
<tr>
<th></th>
<th>Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>&quot;I am well equipped to lead the restructuring, as it applies to my team.&quot;</td>
</tr>
<tr>
<td>2</td>
<td>&quot;I am well equipped to deal with conflict in my team.&quot;</td>
</tr>
<tr>
<td>3</td>
<td>&quot;I am well equipped to focus the team on the company’s new direction.&quot;</td>
</tr>
<tr>
<td>4</td>
<td>&quot;I am well equipped to drive Accountability and Discipline in my area of the organisation.&quot;</td>
</tr>
<tr>
<td>5</td>
<td>&quot;I am well equipped to have conversations with my team that helps us deal with change in the workplace.&quot;</td>
</tr>
<tr>
<td>6</td>
<td>&quot;I am well equipped to have conversations with my team that motivates us to take action.&quot;</td>
</tr>
<tr>
<td>7</td>
<td>&quot;I am well equipped to manage my emotions when having challenging conversations.&quot;</td>
</tr>
<tr>
<td>8</td>
<td>&quot;I am well equipped to help other people on our team to manage their emotions in challenging conversations.&quot;</td>
</tr>
<tr>
<td>9</td>
<td>&quot;I am well equipped to help my team set actions that will develop new behaviors, which enhance accountability and discipline.&quot;</td>
</tr>
</tbody>
</table>

**Note:** Questions 1 through 3 used as primary program effectiveness measures.

### Table 2: Subordinate survey program effectiveness questions

<table>
<thead>
<tr>
<th></th>
<th>Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>&quot;My manager seems able to effectively lead the restructuring, as it applies to my team.”</td>
</tr>
<tr>
<td>2</td>
<td>&quot;My manager seems able to effectively deal with conflict on my team.”</td>
</tr>
<tr>
<td>3</td>
<td>&quot;My manager seems able to effectively focus the team on the company’s new direction”</td>
</tr>
<tr>
<td>4</td>
<td>&quot;My manager seems able to drive Accountability and Discipline in my area of the organisation.”</td>
</tr>
<tr>
<td>5</td>
<td>&quot;My manager has effective conversations with my team that help us deal with change in the workplace.”</td>
</tr>
<tr>
<td>6</td>
<td>&quot;My manager has effective conversations with my team that motivate us to take action.”</td>
</tr>
<tr>
<td>7</td>
<td>&quot;My manager effectively manages his/her emotions when having challenging conversations.”</td>
</tr>
<tr>
<td>8</td>
<td>&quot;My manager effectively helps other people on our team to manage their emotions in challenging conversations.”</td>
</tr>
<tr>
<td>9</td>
<td>&quot;My manager effectively helps my team set actions that will develop new behaviors, which enhance accountability and discipline.”</td>
</tr>
</tbody>
</table>

**Note:** Questions 1 through 3 used as primary program effectiveness measures.

All managerial levels, from frontline manager to executive, were represented in the study population.

See figure 1, which shows the effectiveness scale used in the manager-participant and subordinate surveys. The effectiveness scale ranged from 0 to 10, with “0” being associated with the lowest rating, and “10” being associated with the highest rating; a “don’t know” rating was also included at the low end of the scale. Given the restructuring occurring in the company, and sporadic changes in manager to subordinate reporting relationships, allowing subordinate respondents to respond with “don’t know” response (equal to a zero) was considered important, as some subordinates might not have had adequate time in which to form a valid opinion about a new manager.
**Procedure for Surveys**

The 544 Manager-participants who completed the training were surveyed to self-rate changes in their own behavior seven days after the conclusion of the last of five training modules, which were previously delivered over a five-week period. The seven day delay before sending the survey allowed the manager to practice behaviors learned from all modules, and was intended to attempt a balance between collecting timely and accurate manager-participant response data.

During the first and second week of the training, the manager-participants were encouraged to send a form e-mail to their subordinates, notifying their subordinates they were attending training, and attempting to positively modify their management behavior in accordance with the concepts learned in training. Subordinates were surveyed 30 days after the conclusion of the training, to rate changes in their manager’s behavior; the 30 day delay in surveying subordinates was intended to give an adequate observation period for subordinates, before rating their manager’s potential behavior changes.

**Findings**

Effect sizes for all results are reported using Cohen’s d, with the following effect size guidelines provided by Steinberg (2008): “small effect = 0.4 standard deviation or less, medium effect = 0.5 to 0.7 standard deviation, and large effect = .8 standard deviation or more” (p. 365).

The manager-participant results of the study include 337 (of a possible 544) responses from manager-participant respondents. As shown in table 3, manager-participant’s self-assessed behavior ratings “before” (pre) training and after (post) training indicated statistically significant positive mean score shifts for all three of the following primary program measures.

- “I am well equipped to lead the restructuring, as it applies to my team” before training \(M = 7.07, SD = 1.84\) and after training \(M = 8.14, SD = 1.59\), \(t(336) = -15.60, p < .001, d = -0.62\) (one-tailed), with Cohen’s \(d (-0.62)\) indicating a medium effect size.
- “I am well equipped to deal with conflict in my team” before training \(M = 6.96, SD = 1.53\) and after training \(M = 7.87, SD = 1.30\), \(t(336) = -16.79, p < .001, d = -0.64\) (one-tailed), with Cohen’s \(d (-0.64)\) indicating a medium effect size.
- “I am well equipped to focus the team on the company’s new direction” before training \(M = 7.08, SD = 1.71\) and after training \(M = 7.73, SD = 1.56\), \(t(336) = -11.61, p < .001, d = -0.40\) (one-tailed), with Cohen’s \(d (-0.40)\) indicating a small effect size.

See table 3 which shows primary and secondary program effectiveness measures related to manager-participants self-assessed behavior change, and see figure 2 for a graphical depiction of the three primary program effectiveness “before” (pre) and after (post) measures for manager-participants.

The subordinate’s results of the study include 1244 (of a possible 4220) responses collected from manager-participant respondents’ subordinates. As shown in table 4 and figure 3, manager-participant’s self-assessed behavior ratings “before” (pre) training and after (post) training indicated statistically significant positive mean score shifts for all three of the following primary program measures.

- “My manager seems able to effectively lead the restructuring, as it applies to my team” before training \(M = 6.24, SD = 2.98\) and after training \(M = 6.87, SD = 3.06\), \(t(1243) = -13.29, p < .001, d = -0.21\) (one-tailed), with Cohen’s \(d (-0.21)\) indicating a small effect size.
- “My manager seems able to effectively deal with conflict on my team” before training \(M = 6.11, SD = 3.17\) and after training \(M = 6.59, SD = 3.26\), \(t(1243) = -10.85, p < .001, d = -0.15\) (one-tailed), with Cohen’s \(d (-0.15)\) indicating a small effect size.
- “My manager seems able to effectively focus the team on the company’s new direction” before training \(M = 6.58, SD = 2.84\) and after training \(M = 7.24, SD = 2.92\), \(t(1243) = -13.34, p < .001, d = -0.23\) (one-tailed), with Cohen’s \(d (-0.23)\) indicating a small effect size.

See table 4 for results of primary and secondary program measures, and see figure 3 for a graphical depiction of significant difference between subordinates assessment of participant-manager’s “before” (pre) training and after (post) training effects (evidence of behavior change).
Table 3: Contrast of manager-participants self-reported assessment of “before” (pre) and after (post) training behavioral effectiveness (N=337)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Before Training</th>
<th>After Training</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
</tr>
<tr>
<td>Lead restructuring*</td>
<td>7.07</td>
<td>1.84</td>
<td>8.14</td>
</tr>
<tr>
<td>Deal with conflict*</td>
<td>6.96</td>
<td>1.53</td>
<td>7.87</td>
</tr>
<tr>
<td>Focus the team*</td>
<td>7.08</td>
<td>1.71</td>
<td>7.73</td>
</tr>
<tr>
<td>Drive accountability and discipline</td>
<td>7.40</td>
<td>1.52</td>
<td>7.89</td>
</tr>
<tr>
<td>Conduct change conversations</td>
<td>7.08</td>
<td>1.53</td>
<td>8.05</td>
</tr>
<tr>
<td>Conduct motivational conversations</td>
<td>7.12</td>
<td>1.57</td>
<td>7.87</td>
</tr>
<tr>
<td>Manage my emotions in challenging conversations</td>
<td>6.93</td>
<td>1.51</td>
<td>8.02</td>
</tr>
<tr>
<td>Help others manage emotions in challenging conversations</td>
<td>6.61</td>
<td>1.53</td>
<td>7.58</td>
</tr>
<tr>
<td>Develop team behaviors of accountability and discipline</td>
<td>6.84</td>
<td>1.61</td>
<td>7.64</td>
</tr>
</tbody>
</table>

Note: *Indicates a primary program effectiveness variable; see Table 1 for the complete question asked of respondents. CI = confidence interval; LL = lower limit; UL = upper limit.

Figure 2: Manager-participants self-reported assessment of “before” (pre) and after (post) training behavioral effectiveness (N=337). Note: Table indicates means scores.
Table 4: Contrast of subordinate’s reported assessment of “before” (pre) and after (post) training effectiveness of their manager-participant’s behavior (N=1244)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Before Training</th>
<th>After Training</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
</tr>
<tr>
<td>Manager seems able to lead restructuring*</td>
<td>6.24</td>
<td>2.98</td>
<td>6.87</td>
</tr>
<tr>
<td>Manager seems able to deal with conflict*</td>
<td>6.11</td>
<td>3.17</td>
<td>6.59</td>
</tr>
<tr>
<td>Manager seems able to focus the team*</td>
<td>6.58</td>
<td>2.84</td>
<td>7.24</td>
</tr>
<tr>
<td>Manager seems able to drive accountability and discipline</td>
<td>6.68</td>
<td>2.89</td>
<td>7.17</td>
</tr>
<tr>
<td>Manager has effective change conversations</td>
<td>6.30</td>
<td>2.94</td>
<td>6.85</td>
</tr>
<tr>
<td>Manager has effective motivational conversations</td>
<td>6.33</td>
<td>2.94</td>
<td>6.81</td>
</tr>
<tr>
<td>Manager manages own emotions in challenging conversations</td>
<td>6.74</td>
<td>3.00</td>
<td>7.18</td>
</tr>
<tr>
<td>Manager helps team manage emotions in challenging conversations</td>
<td>6.07</td>
<td>3.20</td>
<td>6.50</td>
</tr>
<tr>
<td>Manager develops team behaviors of accountability and discipline</td>
<td>6.24</td>
<td>2.96</td>
<td>6.78</td>
</tr>
</tbody>
</table>

Note: *Indicates a primary program effectiveness variable; see table 2 for the complete question asked of respondents.
CI = confidence interval; LL = lower limit; UL = upper limit.
The results of the study show that a well-designed and well-delivered virtual change management training program, delivered in real-time (live) with multiple (5) virtual sessions in a single course, can be significantly effective from the perspective of manager-participants and their subordinates in the midst of a difficult organizational change situation – even when the organization is global in nature, and presents substantial challenges like cultural differences, including a multilingual manager-participant population base dispersed among many different physical locations across the world.

Remarkably, positive statistically significant program effectiveness results in manager-participant behavior change were observed for all primary and secondary effectiveness measures, according to both manager-participants self ratings, and their subordinates ratings. Medium effect sizes were generally observed in the results of the manager-participants self ratings, and small effect sizes were observed from the subordinate ratings.

A notable large effect size in behavior change was observed in manager-participant self ratings within the area of emotion-management during challenging conversations; the implication may be that similar training content could be perceived as very helpful to managers who find themselves in similar difficult organizational change situations.

Perhaps manager-participants may have rated their own behavior change with larger effect sizes due to a social desirability bias (a wish to be perceived as “getting better” at management); or, alternatively, perhaps managers were more keenly aware of their own successes in their attempts to change their behavior, when compared to the levels of their subordinate’s awareness. On balance, perhaps subordinates were less likely to rate manager-participant behavior changes more favorably due to the difficult organizational changes that were occurring during the time in which the study was conducted. Nevertheless, the evidence shows that subordinates did detect a positive and significant behavioral change in manager behavior; it is unclear as to whether or not subordinates would have been as aware of manager-participant behavior changes, where observed, if the subordinates were not primed to make such observations – this could be an area for future research.
There may likely be practical limits to the statistical assumptions which can be made using the quasi-experimental design in this study, like the use of one quasi pre-post measurement survey instead of two separate pre and post surveys. However, this design enabled a way to maintain the needed confidentiality and anonymity of respondents, and generated considerable sample sizes of matched-pair responses needed for paired-sample t-tests – this allowed for an innovative means to assess program effectiveness from a manager-participant perspective, with a cross-check from the perspective of subordinates, and allowed a means by which to generalize and internally validate the results inside of the organization. Future research with this training content (particularly in the area of emotion management in challenging conversations) using this experimental design is recommended to enhance the generalizability to other organizations, and this study could be used as a baseline for such research. Increasing the behavioral capability of manager’s emotion-management when conducting challenging conversations could increase the performance and effectiveness of organizations undergoing difficult changes.

...evidence shows that subordinates did detect a positive and significant behavioral change in manager behavior...

References


McDaniel, M.A, Einstein, G.O., Graham, T., & Rall, E. [2003]. Delay Execution of Intentions: Overcoming the cost of interruptions. Published online in Wiley InterScience.


