

Improving Leadership in a Technical Environment: A Case Example of the ConITS Leadership Institute

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Abstract: This article provides a description of the steps taken by the program manager of a newly formed organization to significantly improve the leadership skills in the organization. The manager and a senior associate designed, developed, and deployed a Leadership Institute to provide managers on the contract with the skills, knowledge, and insight required to become effective leaders. The Leadership Institute has completed four semesters and the results have been exceptional. This model could serve as an approach for improving technical leadership, an emerging requirement in successful engineering organizations.

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The Consolidated Information Technology Services (ConITS) contract was created in 2001 by the NASA Langley Research Center in Hampton, Virginia, to merge three disparate information technology (IT) services contracts. The purpose of the consolidation contract was to improve customer satisfaction, streamline Langley's IT services contracting approach, and gain synergies by implementing common support paradigms (NASA, 2001). The contract was awarded to a major aerospace and defense firm and a large percentage of the work was, in turn, subcontracted to small businesses.

The ConITS contract provides IT services in the areas of infrastructure services, including systems administration, IT security, and mass storage and retrieval; business system support, including the implementation of the NASA Integrated Enterprise Management Program (IEMP); software and system development support to NASA researchers; and web and database development and maintenance (NASA, 2001). Work on ConITS is defined by nearly 100 discrete tasks, each structured as a mini-contract. Task leaders on the ConITS team are the first line supervisors for the 100 tasks and are responsible for planning, executing, monitoring, controlling, and improving results to satisfy a variety of customers with varying needs, expectations, and requirements.

Strategic Planning

In the second year of the contract, the contractor senior leadership team met in an off-site strategic planning meeting to define the vision and values of the program. After meeting for a full day

and part of another, the team decided that ConITS must become the most sought after technology services team to satisfy the needs of our various customers, as well as to attract and retain the best IT talent in the Tidewater Virginia area. A set of values was also adopted to guide the ConITS team in achieving the vision. The value statements reflect the importance of gaining the full engagement of each employee and allowing them to reach their maximum potential, creating an environment of trust and integrity, keeping promises and performing at exceptional levels. The senior leadership team believed that a significant competitive advantage could be gained if the vision were achieved by adherence to the values.

Most of the senior leadership team embraced the vision and the values and began to exhibit behaviors consistent with the values; however, several of the senior leaders would not comply with the tenets of the vision, would not adopt behaviors consistent with the values, and were removed from the program. These actions demonstrated to the rest of the ConITS Team that the senior leadership team was serious about creating an inclusive, high performance culture and this accelerated cultural acceptance of the ConITS Leadership Institute.

The Need for Leadership Development

The leaders of the ConITS program understood the urgent necessity to create a culture of effective leadership; however, this presented a major challenge because the future of leadership in engineering organizations is problematic. In a study conducted for the Conference Board, Ann Barrett and John Beeson discovered that the quality of leadership in U.S. companies, as defined by U.S. corporate self-ratings, has degraded significantly since 1997 (Barrett and Beeson, 2005). Even in the face of this decline, a majority of the companies surveyed are not responding by taking discrete steps to develop future leaders (Barrett and Beeson, 2005). A study of 252 organizations conducted in 2000 by the Corporate Leadership Council found that 76% of the respondents were pessimistic about their ability to provide adequate leaders within five years of the survey (Byham et al., 2002).

Ram Charan, Stephen Drotter, and James Noel propose four compelling reasons for the lack of leadership talent in many organizations (2001). The first reason is correlated to the rapid growth of small businesses in the United States. As these organizations grow, the entrepreneurial leaders who facilitated that growth do not necessarily have the leadership skills to lead a maturing organization (Ibid). A second finding relates directly to the essence of this article: effective leaders are scarce, and few organizations are developing a leadership pipeline (Ibid). In addition the skills necessary in our globalized economy, including strong interpersonal skills and the ability to develop and maintain effective relationships, are rare (Ibid). Finally,

many of the “Old Economy” organizations, in particular those that are manufacturing or product development oriented, are attempting to make the difficult transition to “e-commerce” to meet the requirements of the “New Economy” (Ibid). Since the leaders required to meet these new challenges are not developed internally, they must be acquired from an external source (Ibid). Even if an “Old Economy” organization is successful in finding this new style of leader, the new leader often feels out of place in the organization, and may not be successful or may leave.

With these facts and this environment in mind, the program manager decided to create an internal institute designed to identify future leaders and provide them with the skills necessary to meet the challenges the organization would face.

Leadership Development Models

A nearly infinite variety of models are employed by organizations to address the issue of leadership development. The most widely used approach appears to center around promoting the best technical performance, sales person, or the most ambitious candidates. This approach yields a wide range of results, mostly negative, and is successful if the organization serendipitously chooses a candidate who possesses the qualities that gained initial notice, as well as the ability to learn how to grow as a leader. Another model that has gained favor with some organizations has been the development and ongoing deployment of internal leadership academies (Charan, Drotter, and Noel, 2001). Companies such as General Electric, Motorola, Toyota, Unilever, Raytheon, and Northrop Grumman have employed this strategy. A final model, promoted by such scholars as John Maxwell, is the role model approach. In this approach, a candidate is selected and is paired with an appropriate role model (Yukl, 2006). This approach may be effective if the role model exhibits good leadership characteristics and uses a model that has been validated (Ibid). The ConITS Leadership Institute was designed to incorporate the best features of these three approaches.

The ConITS Leadership Institute (CLI)

The Purpose

The IT industry has a long track record of promoting the most technically qualified people into leadership positions with accompanying high expectations for performance; however, organizations rarely provide adequate preparation or training, have few positive role models, do not provide leadership support structures, and essentially set the stage for a high failure rate. The Standish Report entitled *Chaos*, published in 1995, indicated that less than 17% of all IT projects in the United States achieved their stated goals (The Standish Group, 1995). One underlying theme in those failures was a lack of adequate leadership skills on the failed projects (The Standish Group, 1995).

With this industry phenomenon as a backdrop, the program manager, assisted by a retired NASA senior executive, began to develop the curriculum for a ConITS Leadership Institute (CLI). The intent of the project was to provide an opportunity for all leaders on the program to acquire effective leadership skills. The two co-creators of the institute had more than 65 years of combined business and leadership experience and over 45 years of teaching in both academia and in large organizations. They were well qualified to develop the curriculum.

The purpose of the institute was to provide an opportunity for current and future leaders on the program to learn new leadership skills and paradigms, to share experiences and techniques, to

engage in personal leadership development, to provide a forum for senior management to serve as role models, to develop a cadre of enlightened leaders and lifelong learners, and to create a lasting competitive advantage for the program.

The Process

The author and the NASA senior executive began the development of the curriculum for the Leadership Institute by conducting extensive research to determine an approach that would yield the most permanent benefit. They decided to design a developmental experience with the dual goals of creating a thirst for learning in the student participants as well as to provide a foundation in leadership fundamentals.

Since the ConITS program is an integrated, multi-contractor team, and some of the Task Leaders are subcontractor employees, the co-creators determined that subcontractor team members would be invited to attend the course alongside prime contractor employees. This eventually paid off in improved communications and cooperation among the various team members on the program. Semester participants were selected from a group that included the senior leadership team and task leaders as well as individual performers who had no current leadership responsibilities. One of the reasons for the semester composition was to foster a sense of team membership and to foster a badge-less environment where subcontract employees were treated as full members of the team.

The Curriculum

The first component of the experience was an exploration of human behavior, personality, leadership styles, and emerging topics such as emotional intelligence. A leader must possess a keen understanding of human behavior if he or she is to lead people effectively (Luthans, 2005). John Ivancevich, Robert Konopaske, and Michael Mattson believe “The relationship between behavior and personality is one of the most complex matters that managers have to understand” (2005). Emotional intelligence is gaining acceptance as a skill that can radically improve a leader’s effectiveness (Goleman, Boyatzis, McKee, 2002). Unlike intelligence, emotional intelligence can be improved in adults (Goleman et al., 2002). The author felt it necessary for the students to understand these concepts first as an underpinning to mastering other related subjects.

Once these fundamental concepts are discussed, students are exposed to topics such as managing change, ethical leadership, working with teams, and motivation and inspiration. When this phase is completed, the students have become skilled in the fundamentals of leadership and are prepared to study the tools of the trade. These include effective communications, resolving conflicts, meeting management, performance management, and time management.

Finally, each student participant must conduct research on a leadership topic of choice that culminates in a presentation to the entire semester and the ConITS Senior Leadership team. Distinguished guests are also invited to provide feedback and an opportunity for networking with ConITS team member company executives.

The Leadership Institute curriculum encompasses 14 separate two and one-half hour sessions, as described in the preceding paragraph, each with a similar format. Read-ahead materials are supplied prior to each session. A bibliography of reading materials is listed in Appendix A. Sessions are held

approximately every two weeks to allow students time to read and absorb session materials. Each session begins with a discussion of the ConITS vision and the relevance of the vision to the daily work lives of the participants. Next, the read-ahead assignments are discussed in an interactive exchange to elicit personal points-of-view as well as to reinforce the topic by relating the subject to personal experiences. By relating a topic such as empathy, a crucial component of emotional intelligence, to a personal experience, the class is able to internalize the lesson and develop a better understanding of the application of empathy to day-to-day leadership conduct. Sessions often include video presentations, assessments (including the Myers-Briggs Type Indicator), workshops, and class participation projects.

The course topics are aligned so that each session builds upon previous sessions. For example, personality type is discussed in the first session and is referenced in almost every subsequent session. Emotional intelligence is introduced in the fourth session and is referenced throughout the remaining sessions. In the beginning of a session, a theoretical construct is introduced, explained, discussed, and then demonstrated in a workshop exercise, video presentation, or actual example. Reading assignments introduce a topic, but the class discussion adds texture and provides deeper understanding. Current events also serve as an example of the theory in action.

The student research projects are designed to further engage the student in the learning process. Topics range from Humor and Leadership to Crisis Leadership. The presentations have been well-researched and are passionately presented. Exhibit 1 includes the list of research topics and presentations conducted in the first three semesters.

After the presentations are completed, a graduation celebration is conducted during which each graduate is presented with an engraved certificate of completion and a leadership award to commemorate the experience. Graduates are encouraged to invite a guest to the ceremony. This formal ceremony inducts each new graduate into a select group of individuals who are currently leaders or who will assume leadership positions in the future. Each member of this group understands the implementation of the program vision and serves as an ambassador to the rest of the program and customer community.

The first CLI semester began in 2003 as a pilot group. The second semester completed the course of study in 2004. The third semester finished in the summer of 2005.

The Results

Many of the benefits expected by the co-creators have been achieved. The ConITS program has gained a reputation among customers as an outstanding example of customer focus and strong leadership. The development experience has helped to bring the ConITS vision to life and has been cited by our NASA customer as a value added benefit provided by the ConITS team. Award fee scores from NASA customers have exceeded 97% and are regularly and steadily improving. Communications on the program have become more open, and cooperation among the various subcontractor elements has dramatically improved. The ConITS program is developing a strong cadre of high performance leaders, and this phenomenon is a positive sign for the future growth and further evolution of the organization.

Additional unexpected benefits have also accrued to the program. The culture of ConITS began to change and continues to evolve. In times of customer budget uncertainty and extreme

Exhibit 1. Student Presentations

Birth Order
 Body Language
 Change Management
 Creativity and Innovation
 Dark Humor
 Difficult Conversations
 Diversity
 Effective Communications
 Effective Meetings
 Ethics
 Gender Differences in the Brain
 Humor and Management
 Leadership In Crisis Situations
 Leadership Integrity
 Leadership Without Authority
 Manager Customer's Expectations
 Managing Conflict Resolution
 Microinequities
 Negativity in the Workplace
 Personal Networking
 Personal Time Management
 Raising Your Emotional Intelligence
 Risk & Opportunity Management
 Servant Leadership
 Situational Communications
 Small Talk
 Successful Negotiating
 Successful Negotiations
 The Disney Leadership Model
 The Human Factor
 Work Smarter – It's All About the Tools

anxiety, leaders at all levels have emerged to find new ways to solve customer problems. Employees who had never previously been trusted to make decisions are actively engaging with customers and the ConITS Senior Leadership team to find ways to propagate the vision and enhance the program. ConITS has become an environment where it is considered safe to take risks and to challenge the status quo. Finally, and possibly most profoundly, an environment of servant leadership is emerging. A significant rise in mentoring and personal development has occurred.

Another unexpected benefit of the program was discovered when one of the CLI graduates began to prepare for the Project Management Professional (PMP) certification sponsored by the Project Management Institute (PMI). This graduate received her certification on the first attempt and indicated that as many as 40% of the questions on the certification exam had been addressed in the ConITS Leadership Institute. Subsequently, eight Leadership Institute graduates have achieved PMP certification.

Employee study groups are forming to address diverse topics such as Java script development and preparation for the PMP certification process. Leadership has become the standard currency at ConITS. Employees created a voluntary initiative called ConITS Cares to raise funds for charitable purposes. This has all occurred without direction from the senior leadership team, but rather from the initiative of empowered employees.

Reactions from the alumni are also enlightening. When asked in a post-graduation survey to evaluate the CLI, experience many illustrative comments emerged. A representative selection of the comments is provided in Exhibit 2.

Lessons Learned

The ConITS initiative has been highly effective in achieving stated goals and has provided additional benefits. The success

Exhibit 2. Post-Graduation Participant Comments

The CLI has really been a life changing experience for me.

This opportunity has given me the tools to be a better friend, spouse, daughter, co-worker, and someday, leader.

There were so many times during the class that I was prompted to consider my values and purpose in life to really look at what in the world I'm doing here.

I really felt I gained a better understanding of myself and those around me.

This wasn't a class about leadership this was a class about life.

I really enjoy learning and I have especially enjoyed learning from and sharing experiences with my other classmates.

Being included in this prestigious first group has made me feel very lucky and appreciative.

As many of us have, I came to ConITS from an organization that did not do a very good job of motivating its employees and making them feel appreciated. It is things like this, CLI, that have done just that for me.

As a small business owner, I am already effectively utilizing what I learned in the CLI on a daily basis, and I plan on continuously implementing my new knowledge in leadership to my business and my personal life.

It also emphasized the importance of building relationships based on trust and respect which is much needed in the workplace today.

For me, the CLI course has been a series of lessons on leadership in business, success in personal relationships, and an understanding of how and where I fit into the community of mankind. I have been enlightened, inspired, and equipped with tools that aid in my personal and professional development on every level.

CLI has challenged me to treat people with dignity and respect; live a life of integrity; grow spiritually, personally, and professionally; develop emotional intelligence behavior; develop better listening skills; restrain inappropriate anger and invest time with others to help them grow and develop.

CLI has given me the opportunity to revisit leadership models and behaviors. The sessions on emotional intelligence, organizational change, effective communication and conflict resolution have contributed to my personal development. CLI is about building relationships - with the instructors and other ConITS staff. CLI is contributing to our team vision - *Be the most sought-after technology services team*. I have recognized the value of teamwork and how important it is for me to belong to a successful team. Thank you for sharing your experience!

There is hardly a day that goes by where I don't think of something we discussed in class. In most cases I think about what we learned just as much at home as I do at work. The course has prepared me to better deal with people and issues that I face everyday.

The ConITS Leadership Institute (CLI) course helped me to understand the personality types, increased my communications skills and provided leadership skills to better manage my resources. It also gave me an opportunity to interact and observe other ConITS employees. I very much appreciate the time you took to teach the class. Your teachings are more practical and helpful especially while servicing our NASA customers. I am determined to utilize these skills to become a leader.

of the program can be traced to a variety of factors. First of all, the theory is introduced in digestible morsels and is reinforced with practical exercises or discussions of personal applicability. The students, including members of the senior leadership team, have become deeply engaged through the pre-assigned readings, class participation, workshops, and discussions in the hallway and at the water cooler. Team building and communications are naturally enhanced throughout the course of each semester. The medium of exchange on ConITS has become leadership and employees are seeking additional knowledge and skills to enhance their leadership abilities.

The adult learning concepts that are employed are maintaining student interest and active involvement in the class

sessions. A final consideration in the success of the program is the involvement and direction of the program manager in the initiative. By preparing the material, facilitating the classes, and engaging students in discussions about leadership, a positive leadership role model is created and the values articulated in the sessions are demonstrated. Employees participate in the learning experience and return from class to an environment that supports the values, mores, and techniques discussed in the class.

The CLI experience has drawn interest from several external organizations that recognize the primacy of effective leadership. The concept was presented at the NASA Goddard Space Flight Center Program Management Symposium in 2004 and generated significant interest. A presentation in May, 2005, to the local

chapter of the Project Management Institute generated many follow-up questions and a great deal of interest.

The author believes that this facet of the experience separates the CLI from externally administered training and education programs and produces positive cultural change as a natural by-product. This approach creates exceptional leverage as employees are able to exploit more of their talents and actively engage in improving the ConITS program.

Implications for Engineering Managers

Many engineering managers think in terms of the correct specification, the proper engineering method, or the appropriate set of tests to use to demonstrate a product's effectiveness. This kind of thinking is crucial when ensuring that engineering projects meet or exceed the technical requirements of any project; however, Warren Bennis and Burt Nanus, foremost leadership experts, describe this approach as a focus on management (Bennis and Nanus, 1985).

Bennis and Nanus describe management as the ability "to bring about, to accomplish, to have charge of or responsibility for, to conduct" (Bennis and Nanus, 1985), while leadership is described as "influencing, guiding in direction, course, action, opinion" (Bennis and Nanus, 1985). "Managers are people who do things right and leaders are people who do the right thing" (Bennis and Nanus, 1985). Many observers believe that one of the reasons the United States has seen such scandalous behavior from corporate executives in recent years has been a lack of focus on "doing the right thing" (Bennis, 2003).

The implications for engineering managers seem clear. As the affects of globalization become even more profound on the U.S. economy, the pressure for companies to achieve continually higher levels of quality, innovation, productivity, and flexibility will increase. Successful organizations will adapt to change and will make the necessary adjustments in their organizations, products, and services in time to meet the demands of a hungry global economy (Kotter, 1996). Ineffective organizations will continue to produce the products and services that have been successful in the past, but are no longer desired in a rapidly changing environment. In effect, they will be "doing the wrong things very well" (Black and Gregersen, 2003).

The solution to our corporate leadership woes is to invest more time, energy, and focus on developing the individuals who will lead our organization in the future (Schein and Kramer, 2005). These individuals will focus on doing the right things!

Recommendations

Few leaders of technical organizations have a background in leadership development, and many would not be able to develop and administer a robust CLI; however, most are able to learn more about the practice of leadership and to spend time with employees discussing and propagating the lessons of positive leadership. In addition, engineering managers should learn to focus more of their day-to-day attention on leadership matters in order to improve their effectiveness.

One of the most important aspects of the ConITS Leadership Institute is the regularly scheduled dialogue between the program manager and employees about all aspects of leadership and human behavior. This forum reinforces program values, demystifies the leader, and opens the channels of communications in the organization. Every leader should be capable of engaging the

organization in a regular dialog about the important issues of the day and must find a method to convey his or her personal priorities to the organization.

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Appendix A: ConITS Leadership Institute: Required Reading List

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