THE CENTER FOR PROCESS IMPROVEMENT AND PRODUCTIVITY

The Progression of the Six Sigma Belts and the Colors

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One key innovations of Lean Six Sigma involves the 'professionalizing' of the various quality management functional levels, often called 'belts'. Prior to Lean Six Sigma, quality management in practice was largely relegated to the production floor and to statisticians in a separate quality department. Formal Lean Six Sigma programs adopt a ranking terminology (similar to some martial arts systems) to define a hierarchy and career path that cuts across all business functions. During the participation in six NSU 3-credit building-block credited courses, students will learn the skills, tools, and techniques to deliver breakthrough business improvements and cost reductions, and prepare for the ASQ Six Sigma Belt certification exams.

The Progression of the Six Sigma Course Curriculum: The Belts and the Colors

By Frank Voehl

In a Nutshell

One key innovations of the Lean Six Sigma (LSS) movement involves the 'professionalizing' of the various quality management functions. Prior to Six Sigma, quality management in practice was largely relegated to the production floor and to statisticians in a separate quality department. Formal Lean Six Sigma programs adopt a ranking terminology (similar to some martial arts systems) to define a hierarchy and career path that cuts across all business functions.

Lean Six Sigma identifies six key roles for its successful implementation:

- *Executive Leadership* includes the CEO and other members of top management. They are responsible for setting up a vision for Six Sigma implementation. They also empower the other role holders with the freedom and resources to explore new ideas for breakthrough improvements.
- *Champions* take responsibility for Lean Six Sigma implementation across the organization in an integrated manner. The Executive Leadership draws them from upper management. Champions also act as mentors to Black Belts.
- *Master Black Belts*, identified by champions, act as in-house coaches on Six Sigma. They devote 100% of their time to Lean Six Sigma. They assist champions and guide Black Belts and Green Belts. Apart from statistical tasks, they spend their time on ensuring consistent application of Six Sigma across various functions and departments.
- *Black Belts* operate under Master Black Belts to apply Six Sigma methodology to specific projects. They devote 100% of their time to Lean Six Sigma. They primarily focus on Six Sigma project execution, whereas Champions and Master Black Belts focus on identifying projects/functions for Lean Six Sigma.
- *Green Belts* are the employees who take up Lean Six Sigma implementation along with their other job responsibilities, operating under the guidance of Black Belts.
- *Yellow Belts* are the employees who do the data gathering. Some organizations use additional belt colors, such as *White Belts*, for employees that have some general basic training in Six Sigma tools, and Moneybelts for those who are involved in the role of Champions and Sponsors..

Overview

Innovative Problem Solving (IPS) is what we are calling the application of Lean Six Sigma concepts, tools and methodologies for the NSU course curriculum. During the participation in six 3-credit building-block credited courses, students will learn the skills, tools, and techniques to deliver breakthrough business improvements and cost reductions, and prepare for the ASQ Six Sigma Green Belt certification exams. The process of learning these tools is often referred to as 'obtaining a belt,' and involves performing qualified project work during the implementation of innovative solutions and methods improvements.

Each belt is given different colors for the purpose their Lean Six Sigma success identification, and each color represents a unique responsibility. This is to ensure that the aim of Lean Six Sigma is not only the production of defect free programs, projects and products, but also the fast implementation of the projects with minimal time wasted.

Lean Six Sigma students will learn to function simultaneously inside two frameworks, the business framework and the Lean Six Sigma cultural framework as they work their way up the curriculum-belt ladder. This usually occurs when the work is divided into several parts. Accordingly, each color indicates each competency or level of skills needed within the project team. This 'belt' identification could help the project leaders to find the apt person for assigning the different tasks to, as well as to establish a 'skill-sets-path' needed at each of the four (4) levels.

In summary, each color is unique to different task responsibilities and Lean Six Sigma project skills to perform. Therefore the color will also help the project leader to determine the skills and the responsibilities of the person assigned to the work. The four major levels of belts and colors are: (a) Yellow Belt, (b) Green Belt, (c) Black belt, (d) Master Black Belt. *Note that while Champions are shown, they are not technically classified as a 'belt.' level.*

Summary Description of the Roles of the Various Belt Levels

The Four Belts (Yellow, Green, Black I and Black II) are intimately inter-twined with each other in a building-block manner, and with the role of the leadership team, which ultimately depends on the size of the company. In large companies there should be a leadership team at the corporate level as well as a leadership team for each of the business units and functions. The key elements of the corporate leadership role are: (a) Providing strategy and direction; (b) Communicating purpose and progress; (c) Enabling and providing resources; (d) Conducting Management Reviews; and (e) Recognizing and reinforcing, as enumerated in Table #2[i]

Corporate Leadership	**Unit Leadership/ Champions**	**Green Belts**	**Black Belts**	**Master Black Belts**	**Foundation Yellow Belts**
Create and deploy Six Sigma strategy and goals	Establish and facilitate project selection	Provide project management and help align to KPI	Learn and use the Six Sigma methodology and tools	Develop and deliver Six Sigma training	Provide input data and aid in data collection using 'catch-ball'
Define scope boundaries—what's in and what's out	Approve projects & linkage to strategy and key needs; help to create Project Charter	Create project charter; Develop and maintain project workplan	Analyze the impact of wide and narrow project scopes.	Assist in the analysis of projects and systems interface	Provide team members and help with scope mapping

Corporate Leadership	Unit Leadership/ Champions	Green Belts	Black Belts	Master Black Belts	Foundation Yellow Belts
Communicate the program purpose and progress	Select Project Champions; Facilitate identifying of resources— BB, team, $$, functional resources	Facilitate identifying of resources— BB, team, $$, functional resources; Provide team leadership	Help design and develop the Communication Plans	Coach and counsel Black Belts	Support with expertise in the data gathering phases and mapping functions of DMAIC
Provide resources— people, time, and seed money	Provide needed resources and training; Remove barriers	Develop the WBS to determine project budget	Meet weekly with the Project Champion	Ensure the success of "mission critical" projects	Identify opportunities for Lean Six Sigma projects
Ensure that the training plans are in place	Review Black Belt and Green Belt projects monthly; Review projects weekly	Help prepare the LSS Training Plans	Communicate support needs to functional groups; Help prepare the LSS Training Plans	Support the efforts of Champions and leadership team	Employee entry point to help benchmark and provide skills level baseline
Ensure recognition plan is in place	Establish and use communication process	Verify project deliverables for each phase of DMAIC	Ensure that the right data are collected and properly analyzed	Provide Change Management Applications	
Quarterly reviews of overall initiative	Review the entire process every 3-6 months	Provide Team Leadership to communicate purpose and progress of projects	Identify and communicate barriers to Champion	Help coach the Black Belts	Provide reality check, diversity of ideas, perspective
Periodic reviews of operations and business initiatives	Establish reward and recognition structure; Approve project closure	Help provide monthly updates to Champion and Master Black Belt	Provide monthly updates to Champion and Master Black Belt	Help coach the Black Belts	

Corporate Leadership	Unit Leadership/ Champions	Green Belts	Black Belts	Master Black Belts	Foundation Yellow Belts
Support initiative with rewards and recognition	Link rewards to performance; Identify next project for the BB/GB	Recommend Team Members for special recognition	Be responsible for delivering results ($$)	Provide Change Management Applications	Provide data and candidates
Publicly celebrate successes	Be accountable for the success of the effort; Celebrate, recognize, and reward BB and team	Celebrate, recognize, and help to reward team members	Identify opportunities for future Six Sigma projects	Identify opportunities for Six Sigma projects	Provide data and candidates
Lock in the gains and expand the program	Review Black Belt and Green Belt projects monthly	Be accountable for project results	Be responsible for delivering results ($$)	Provide Change Management Applications	Identify future opportunities for Six Sigma projects and Green Belt level

Exhibit #1: Six Sigma Roles. [1] The above Exhibit Table and reference illustrates the 6 organizational roles (vertical columns) involved in Lean Six Sigma, along with the 12 key activities (horizontal rows) that are typically performed during the LSS deployment. It is loosely based upon the work of Frank Voehl and Jim Harrington of the American Society for Quality (ASQ), when Voehl was National Chair of the Community Quality Council (1999-2001) and Harrington was past-President and Board Chair. [ii]

Companies internalize their Lean Six Sigma programs by developing Black Belts level I & II, who are the true experts in the Roadmaps and Tools, as well as driving deployment strategies. They are the internal consultants who eventually replace the externals, and they provide mentoring and training required for long-term success, thereby creating value[iii]. Black Belts drive two or three strategic projects simultaneously, and are considered to be strategic resources for most organizations in that they demonstrate clear expertise in working full-time to solve complex problems. The Green Belts drive shorter-term tactical projects and are generally part-time problem solvers.

There are training and certifications for each of the four levels corresponding to the color of a Lean Six Sigma belt. For example:

1. **Foundation Yellow Belt (16 hours):** *Yellow Belts are trained as data gatherers*. Lean Six Sigma Yellow Belt certification provides the participants with an overall

insight to the usage of the six sigma techniques, especially focusing on data gathering and process mapping. Some basic training is also given in the field of six sigma metrics and the basic improvement methodologies. It is essential for six sigma yellow belts to learn how to integrate lean and six sigma methodologies to achieve high level production and transactional systems. This will allow the organization to meet the customer's expectations and the objectives of the organization at all levels.

The certification helps the trainees to acquire the basics about the introduction to the process management and the fundamental tools of Lean Six Sigma. Strong understanding of the processes, enabling each individual to provide meaningful assistance is the other characteristic of the Lean Six Sigma Yellow Belt certification. The ultimate aim of this certification level is to provide the foundation for the achievement of the organizations overall objectives. A commonly accepted ratio is one Yellow Belt for every five employees.

Upon successful completion of this course, the student will be able to:

1. Perform as a Team Member, or Subject Matter Expert (SME), on a process improvement team, and have knowledge of how to apply the tools needed to complete agreed-to projects.
2. Demonstrate an understanding of/ and appreciation of the role of problem solving, as performed by the Lean Six Sigma Yellow Belt in today's rapidly changing business environment.
3. Apply the Six Sigma data gathering process in accordance with the Lean Six Sigma principles, according to the Yellow Belt Body of Knowledge (BoK).
4. Participate in problem-solving exercises and presentation preparation, and add personal experiences to the exploration process.
5. Use Six Sigma-specific software, i.e. QI Macros or SigmaXL, to gather and analyze pertinent data.
6. Apply ethical concepts to making decisions and generating solutions.

2. **Six Sigma Green Belt (64 hours):**: *Green Belts are trained as project Team Leaders and project managers*. At the Green Belt level, the Lean Six Sigma participants are given training to operate in the support or under the supervision of a six sigma black belt. Through this certification the person is trained to analyze and solve quality problems by building upon what they have learned at the Yellow Belt level. This results in the successful management and completion of quality improvement projects. A Green Belt will be well versed in all the aspects of the model in accordance with the six sigma principles.

   The person, who had undergone the Lean Six Sigma green belt certification, has at least three years of work experience in demonstrating the knowledge of six sigma tools and processes. They are capable in identifying non-value added elements and activities. They are also capable in the use of specific tools. A commonly accepted ratio is one Yellow Belt for every twenty employees. Green Belts work on projects part-time (25%), either as a team member for complex projects, or as a project leader for simpler projects. Green belts are often called the "work horses" of Lean Six Sigma projects. Most managers in a mature Lean Six Sigma organization are Green Belts.

Green Belt certification is a critical prerequisite for advancement into upper management in a Lean Six Sigma organization. Managers sometimes act as Green Belts for their entire careers, as their style of management. Green belts leading simpler projects learn to develop the following outcome responsibilities:

- Refine a project charter.
- Review the project charter with the project's champion.
- Become the Project Manager for the Team project.
- Work with the Champion and Sponsor to select the Team Members for the project.
- Communicates with the champion, master black belt, black belt and process owner throughout all stages of the project.
- Facilitate the team through all phases of the project.
- Schedule meetings and coordinate logistics.
- Analyze data through all phases of the project
- Train team members in the basic tools and methods of Six Sigma.

In complicated Lean Six Sigma projects, green belts work closely with the team leader (black belt) to keep the team functioning and progressing through the various stages of the Six Sigma project.

Upon successful completion of this course, the student will be able to:

1. Perform as a Team Leader, or Subject Matter Expert (SME), on process improvement teams, and have project management skills and knowledge of how to measure a process and apply the tools needed.

2. Apply the Quality Management DMAIC model and project selection techniques, in accordance with the Lean Six Sigma principles following the Green Belt Body of Knowledge (BoK).

3. Evaluate and facilitate the Lean Six Sigma projects in meeting ROI and improvement targets, and assist others engaged in performance improvement to apply the Six Sigma concept and methodology.

4. Map out processes to identify sources of variation, and gain a basic understanding of statistics analysis, as well as learn to perform experiments and analyze data to determine the most effective way to improve and stabilize processes.

5. Analyze measurement results utilizing basic statistical concepts using Six Sigma-specific software (i.e. Minitab/or QI Macros) to synthesize pertinent data.

6. **A**pply ethical concepts to making decisions and generating solutions.

3. **LSS Black Belt Level I (80 hours):** *Black Belts are trained as Systems Thinkers and process masters*. The candidate who had undergone Lean Six Sigma Black Belt certification is a professional who is capable in the explanation of six sigma philosophies and the principles. His or her knowledge also includes the supporting systems and the tools. This certification also deals with the training of

the candidate in developing and demonstrating the team leadership role in others (such as Green Belts), understanding and teaching team dynamics, and assigning team member roles and responsibilities.

A Lean Six Sigma Black Belt will be well versed in all the aspects of the DMAIC and DMADV models in accordance with the Six Sigma principles. These professionals also have basic fundamental knowledge of lean enterprise concepts. A commonly accepted ratio is one Black Belt for every one hundred employees or ten Green Belts. Black are improvement leaders who may not be an expert in the process under study. The ideal candidate for a black belt is an individual who can learn to posses and develop the following outcome characteristics:

- ✓ Has technical and managerial process improvement/ innovation skills.
- ✓ Has a passion for Statistics and Systems Theory.
- ✓ Understands the psychology of individuals and teams.
- ✓ Understands process improvement tools and methods.
- ✓ Has excellent communication and writing skills.
- ✓ Works well in a team format.
- ✓ Can manage meetings.
- ✓ Has a pleasant personality and is fun to work with.
- ✓ Communicates in the language of the client and does not use technical jargon.
- ✓ Is not intimidated by upper management.
- ✓ Has a customer focus.

The participant will learn to master the following responsibilities of a Black Belt:

- ✓Help to initiate and prepare a project charter.
- ✓Communicate with the champion and process owner about progress of the project.
- ✓ Lead the project team.
- ✓ Schedule meetings and coordinate logistics.
- ✓ Help team members design experiments and analyze the data required for the project
- ✓ Provide training in tools and team functions to project team members.
- ✓ Help team members prepare for reviews by the champion and executive committee.
- ✓ Recommend additional Six Sigma projects.
- ✓ Lead and coach Green Belts leading projects limited in scope.

A black belt is a full-time quality professional who is mentored by a master black belt, but may report to a manager, for his or her tour of duty as a black belt. Upon successful completion of this course, the students will be able to:

1. Perform as a Team Leader, Team Member, or Subject Matter Expert (SME) on process improvement and new product design teams, and have knowledge of how to apply and diagram the tools needed to complete agreed-to projects.

2. Apply the two Quality Management models of DMAIC and DMADV, and supporting systems, in accordance with the Lean Six Sigma principles according to the Body of Knowledge (BoK).
3. Evaluate and facilitate the Lean Six Sigma projects in meeting ROI and improvement targets.
4. Evaluate actual project results compared to the optimal targeted plans.
5. Use Six Sigma-specific software, i.e. Minitab, to synthesize pertinent data.
6. Apply ethical concepts to making decisions and generating solutions.

4. **LSS Master Black Belt Level ll.** *Black Belts Level ll candidates are trained in Change Management and Strategic Planning and are thought of as change masters*. The professionals who had undergone the Black Belt Level ll certification are considered as Six Sigma quality masters or experts, and they are responsible for the strategic implementations within an organization. Ten days of training is usually given for the improvement of the responsibilities of a Master Black Belt, which includes training and mentoring of Black Belts and the Green Belts. Moreover, the responsibilities or the duties of a master black belt extend to the range of helping the belts in prioritizing, selecting and charting high impact projects.

   Maintaining the integrity of the six sigma measurements, improvements and developing, revising six sigma training materials, qualifying or teaching the other six sigma facilitators about the methodologies, tools and applications in all functional areas of a company are some of the other responsibilities of a person who has completed master black belt certification. A commonly accepted ratio is one Yellow Belt for every two hundred and fifty employees, or fifteen to twenty Black Belts. A Master Black Belt takes on a leadership roles as keeper of the Six Sigma process, advisor to executives or business unit managers, and leverages, his/her skills with projects that are led by black belts and green belts. Frequently, master black belts report directly to senior executives or business unit managers.

   A master black belt has successfully led ten or more teams through complex Lean Six Sigma projects. He or she is a proven change agent, leader, facilitator, and technical expert in Six Sigma management. Master black belt is a career path. It is always best for an organization to grow its own master black belts. Unfortunately, sometimes it is impossible for an organization to grow its own master black belts due to the lead time required to become a master black belt. It takes years of study, practice, tutelage under a master, and project work.

   Master Black Belts will learn to master the following outcome responsibilities:

   - Counsel senior executives and business unit managers on Lean Six Sigma management.
   - Help identify and prioritize key project areas in keeping with strategic initiatives
   - Continually improve and innovate the organization's Six Sigma process.
   - Apply Lean Six Sigma across both operations and transactions-based processes such as Sales, HR, IT, Facility Management, Call Centers, Finance, etc.
   - Coordinate Lean Six Sigma projects from the dashboard.

- Teach black belts and green belts Six Sigma theory, tools, and methods.

Upon successful completion of this course, the students will be able to:

1. Perform as a coach and mentor to Six Sigma professionals, provide Lean Six Sigma training and project management, and train Six Sigma Green Belts and Black Belts in an individual and team environment.
2. Apply the Strategic Planning and Change Management models to the deployment of Quality Systems, Six Sigma systems, related methodologies such as Baldrige and ISO 9000, and opportunities for improvement, in accordance with the Master Black Belt Body of Knowledge (BoK).
3. Evaluate and facilitate the Innovation Management and Risk Analysis of Lean Six Sigma projects in meeting organizational finance and business performance metrics.
4. Perform training design and delivery, needs analysis and curriculum development, and the mentoring of champions, change agents, and executives.
5. Use advanced measurement methods and tools, including modeling and Design of Experiments, along with automated process control instead of or in conjunction with Statistical Process Control (SPC).
6. Sit for the ASQ Black Belt and Master Black Belt exams, and apply ethical concepts to making decisions and generating solutions.

5. **Six Sigma Champions:** *Champions are the executive 'cheerleaders' of Lean Six Sigma and the resource providers.* A Lean Six Sigma Champion is the most basic form of Six Sigma certification. A Champion understands the theory of Six Sigma management, but does not yet have the quantitative skills to function as an active Lean Six Sigma project team member. However, executives in Six Sigma organizations function as champions of Six Sigma projects. As champions, executives take a very active sponsorship and leadership role in conducting and implementing Six Sigma projects. A Champion should be a member of the Executive Committee, or at least a trusted direct report of a member of the Executive Committee. She or he should have enough influence to remove obstacles or provide resources without having to go higher in the organization. They work closely with the executive committee, the project leader (called a black belt) assigned to their project, and the master black belt (supervisor of black belts) overseeing their project. Champions have the following responsibilities:

   - ✓ Identify their project on the organizational dashboard.
   - ✓ Develop and negotiate project objectives with top management.
   - ✓ Select a black belt (or a green belt for a simple project) to lead the project team.
   - ✓ Remove any political barriers or resource constraints to their Six Sigma project.
   - ✓ Provide a communication link between project team(s) and top management.
   - ✓ Help team members manage their resources and stay within the budget.
   - ✓ Review each project's timetable.

- ✓ Keep the team focused on the project by providing direction and guidance.
- ✓ Assure that Six Sigma methods and tools are being used in the project.

To summarize, the Four Belts (Yellow, Green, Black I and Black II) are intimately inter-twined with each other and with the role of the leadership team, and different tools and methodologies are utilized by each of the 'belts' at the various phases of DMAIC and DMADV projects.

Exhibit #2: Lean Six Sigma DMAIC Phases and Methodologies. The Exhibit Table below *is an overview of the LSS performance management approach using the Innovative Problem Solving Model to illustrate a detailed schematic overview of how the four courses fit together in a progressive manner.*

DMAIC/ DMADV Phase	Yellow Belt	Green Belts	Black Belts	Master Black Belts	Champion
Introduction	1-Higher Standards 2-Lean and Six Sigma defined 3- Xs and Ys 4- The Sigma level 5- DNA of a Champion 6- DMAIC process 7- Lean & DMAIC 8- Organizing for Success 9- Skill Check 10- Success Stories	1-Six Sigma and Organizational Goals; organizational drivers and metrics 2-Lean Principles and concepts; non-value added 3-Theory of Constraints 4- Design for Six Sigma 5-QFD and DFSS 7- Design FMEA vs. Process FMEA 8-Roadmaps for DFSS 9-Skill Check 10-Success Stories	***See Black Belt Body of Knowledge for details.***	***See Master Black Belt Body of Knowledge for details.***	
Define Phase	1-Project Charter Toolset 2-Process Mapping 3- SIPOC Toolset 4- Process Flows and Swimlanes 5- Affinity Diagram 6- CTQC Tree 7- Lean & DMAIC 8- Voice of the Customer & Specs 9- Progress Reviews	1-Project Charter and Problem Statement 2-Process Management basics 3- Management and Planning Tools 4- Business results for projects 5-Team dynamics and performance, including team stages, roles, and team tools (NGT, Multi-voting, Brainstorming). 6- Voice of the Customer & Voice of the Business	***See Black Belt Body of Knowledge for details.***	***See Master Black Belt Body of Knowledge for details.***	

DMAIC/ DMADV Phase	Yellow Belt	Green Belts	Black Belts	Master Black Belts	Champion
		7- Progress Reviews			
Measure Phase	1-Measurement & Metrics 2-Trend Chart 3- Histogram 4- Quantifying process variability 5- SPC Intro and Background 7- X and Moving Range Charts 8- Pareto Toolset 9- Data Collection Planning 10- Progress Reviews	1-Process analysis & modeling 2- Probability and Statistics, Central Limit Theorem. 3- Types of data and measurement scales 4- Data collection methods 5- SPC: Descriptive Statistics 6- Graphical methods, such as stem-and-leaf plots, box-and-whisker plots, run charts, scatter diagrams, Pareto Charts. 7- Probability distributions 8- Measurement System Analysis 9- Short and Long-term Process Capability and performance 10-Progress Reviews	***See Black Belt Body of Knowledge for details.***	***See Master Black Belt Body of Knowledge for details.***	***See Champion Body of Knowledge for details.***
Analyze Phase	1-Cause & Effect Analysis Toolset 2-5Whys/1 How 3- Scatter Plots 4- Process Efficiency analysis 5- Progress Review	1-Exploratory data analysis using Multi-Vari Studies 2- Simple Linear Correlation and Regression 3- Hypothesis Testing 4- Paired Comparison, ANOVA, Chi-Square 4- Process Efficiency analysis 5- Progress Review	***See Black Belt Body of Knowledge for details.***	***See Master Black Belt Body of Knowledge for details.***	***See Champion Body of Knowledge for details.***
Improve Phase	1-FMEA Toolset 2-Brainstorming 3- Prioritizing and selecting a solution 4- Piloting a solution 5- Progress Review	1-Design of Experiments: basic terms and main effects 2- SCAMPER Toolset 3- Scatter Plots 4- Process Capability analysis 5- Piloting a solution 6- Implementing and	***See Black Belt Body of Knowledge for details.***	***See Master Black Belt Body of Knowledge for details.***	***See Champion Body of Knowledge for details.***

DMAIC/ DMADV Phase	Yellow Belt	Green Belts	Black Belts	Master Black Belts	Champion
		validating using main effects analysis, multi-vari studies 6- Progress Review			
Control Phase	1-Control Plan Toolset 2-Standardized Work 3- Document process changes 4- Progress Review	1-SPC and Control Plan Toolset 2-Selection of Control Charts 3- Analysis of Control Charts and document process changes 4- Progress Review	***See Black Belt Body of Knowledge for details.***	***See Master Black Belt Body of Knowledge for details.***	***See Champion Body of Knowledge for details.***
For DMADV: Design Phase		Verify project deliverables for each phase	***See Black Belt Body of Knowledge for details.***	***See Master Black Belt Body of Knowledge for details.***	***See Champion Body of Knowledge for details.***
For DMADV: Verify Phase		Provide Team Leadership to communicate purpose and progress of projects	***See Black Belt Body of Knowledge for details.***	***See Master Black Belt Body of Knowledge for details.***	***See Champion Body of Knowledge for details.***
Periodic reviews of operations and business initiatives		Help provide monthly updates to Champion and Master Black Belt	***See Black Belt Body of Knowledge for details.***	***See Master Black Belt Body of Knowledge for details.***	Provide reality check, diversity of ideas, perspective
Support initiative with rewards and recognition		Recommend Team Members for special recognition	***See Black Belt Body of Knowledge for details.***	***See Master Black Belt Body of Knowledge for details.***	***See Champion Body of Knowledge for details.***
Publicly celebrate successes		Celebrate, recognize, and help to reward team	***See Black Belt Body of Knowledge***	***See Master Black Belt Body of Knowledge***	***See Champion Body of Knowledge for***

DMAIC/ DMADV Phase	Yellow Belt	Green Belts	Black Belts	Master Black Belts	Champion
		members	***for details.***	***for details.***	***details.***
Lock in the gains and expand		Be accountable for project results	***See Black Belt Body of Knowledge***	***See Master Black Belt Body of Knowledge***	***See Champion Body of Knowledge***

Endnotes

[i] These Management Roles are based upon the information detailed out in the book, ***Recovering Prosperity through Quality***, by Frank Voehl (ASQ Quality Press, 2000).

[ii] In its present form, it represents a collaboration with Roger Hoerl and Ron Snee, who authored the book, ***Leading Six Sigma: A Step-by-Step Guide Based on Experience with GE and Other Six Sigma Companies.***

[iii] One of Allied Signal's pioneer Master Black Belts, Bill Hill, mentored 12 Black Belts who achieved some $30 million in savings for their first 12 projects. His success was in his mentoring abilities which ensured that each project was completed as quickly and completely as possible, while yielding the highest possible payback value.