



The Future Master Black Belt

Meet the bionic successor of today's project manager.

by Forrest W. Breyfogle III

The success—indeed, survival—of tomorrow's businesses will depend on more than just skillful project execution. The capabilities and responsibilities of Six Sigma Master Black Belts (MBBs) have become, and will continue to be, critical to organizations' success. Career professionals and company managers who are looking ahead have begun to strengthen the training, leadership, and superior project- and systems-management skills that this function will require.

Organizations will need more sophisticated MBBs who have been trained to create and orchestrate systems for improving financial results and maintaining a competitive edge in unforgiving markets, domestically and internationally.

Increasingly, MBBs will become the principal catalysts in an organization's pursuit of the three Rs: ensuring that everyone does the right things, does them in the right ways, and does them at the right time. More sophisticated MBBs will help management establish the goals and a roadmap to achieve this coordinated outcome. A measurement and improvement system must be created to monitor operations, marshal the entire workforce, and meet organizational goals. Survival depends on providing maximum, measurable, predictable, and sustainable bottom-line results.

What skills will be required for future MBBs to help organizations meet these ambitious goals? How should organizations go about choosing the ideal training curriculum for their MBBs?

This article will discuss how MBB training must go beyond quality and beyond problem solving. Today's MBB training must teach financial and corporate goals and management skills to help MBBs communicate those goals and results up and down the organizational hierarchy.

Essential capabilities

For MBB training to be successful, students must apply their "hard" and "soft" skills in a professional and proactive environment that develops business acumen and technical know-how.

These capabilities must include understanding corporate roles and responsibilities, navigating organizational structures, and identifying stakeholders (including executive management) and securing their enthusiastic cooperation. This will be accomplished by using superior leadership skills, spotlighting opportunities for improvement and leveraging them, isolating the flashpoints that cause firefighting and eliminating them, sweeping away performance barriers, and creating a system that *pulls* project creation, as opposed to *pushing* it (i.e., deciding without enterprise-system analytics which projects should be undertaken next).

Tomorrow's MBB will help the organization get out of firefighting mode by establishing tamper-proof metrics that include a real-time, full-screen management dashboard where everything

Know & Go

- Tomorrow's Master Black Belts (MBBs) will need to have more than just quality and problem-solving skills; they will need to understand their company inside and out.
- MBBs will need to understand corporate roles and responsibilities, how to navigate organizational structures and how to identify stakeholders and secure their cooperation.
- A superior MBB training course must include broad-based leadership skills built on the teachings of today's leading management experts.
- To facilitate positive interactions, MBBs must understand their own personality and the personality of their stakeholders. The Myers-Briggs Type Indicator tool is an effective way to understand basic personality types.
- An advanced MBB curriculum should, of course, also contain more advanced statistical topics.

that matters is measured utilizing a metric report format; deploying a wide range of tools, each aligned to the true needs of the organization; and building an enterprise measurement and improvement system that goes beyond the current project-based lean Six Sigma practices.

An MBB training program, either in-house or public, might include attendees who were trained by different providers. Their skill set, typically, will be diverse. Some may have had minimal statistical training, for example, while others have had more. MBB training must accommodate a wide range of backgrounds.

It must also be recognized that many students may have forgotten earlier learning skills. Instructors must enliven their teaching with case studies, hands-on exercises, video demonstrations, homework assignments, designated projects, and personal encouragement. Instructors need to understand the personalities of individual students and adapt their one-on-one coaching using an assessment technique that is part of the training curriculum.

Understanding business realities

What does success look like in a business? Educating tomorrow's MBBs begins with a thoughtful analysis of this question. The curriculum must establish a thorough understanding of corporate finance and accounting, including financial statements, types of costs, cash flow, profitability indexing, Six Sigma financial benefits, and benefit calculation.

The curriculum should also include value-chain analysis, business-improvement methodologies, project executing and tracking, and developing the lean Six Sigma support infrastructure so that there is more involvement with enterprise decision making, and not just doing projects. It should also include managing players' relationships through adult learning, managing up, peer coaching, mentoring, characteristics of an effective implementation culture, culture change, and change strategies.

Management skills

Experience has shown that an MBB's status and expertise alone won't generate compliance—even if the MBB is the CEO. When change is resisted and an MBB can't persuade others to provide the support needed to achieve goals, the MBB must deploy superior management skills. The curriculum for tomorrow's MBB should develop these capabilities.

A fully effective MBB curriculum must include a broad-based leadership skills module built on the teachings of today's leading management experts. For example, a leadership training module at Smarter Solutions Inc. is led by a professor of communications at the University of Texas in Austin. Following are some examples of the tactics that he includes:

- Build alliances. Your network is probably bigger than you believe. Cultivate it. Never underestimate the value of keeping in touch.
- Before presenting a solution, verify the nature of the problem being addressed. Define the problem in a way that leads as directly as possible to your recommended solution.

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- Sell the benefits of your solution before you describe its features. Avoid unnecessary details.
- To be effective during meetings with stakeholders, determine what they know about your position, how they feel about it, and—equally important—how they feel about you personally.

- Use open-ended questions for a free flow of ideas and close-ended questions to focus on an issue. Anticipate likely objections such as, "We lack the resources," or "I have a better idea," or "Doing this will be hard."
- Bring evidence to the table. Your viewpoint must be relevant, believable, and understandable. New evidence is best. Evidence is particularly important when you are seen as having low credibility or vested interests.

- Support your viewpoint with body language that demonstrates confidence. Use animated gestures, stand erect, lean slightly forward, vary your voice to emphasize important points, and look directly at the listener to build rapport and gauge attention.

Understanding individual stakeholders

To lead successfully, tomorrow's MBB must understand the individual personalities of many different stakeholders whose cooperation is needed—and interact with them in ways that secure their cooperation. A number of different instruments can be used to help leaders understand stakeholders' personalities. The most widely used is the Myers-Briggs Type Indicator, a tool that's included in my firm's MBB curriculum. This module is led by a consulting psychologist who has used this assessment in training for many years.

Myers-Briggs helps MBBs evaluate four personality characteristics of an individual stakeholder by observing that stakeholder's behaviors. The instrument helps determine if the stakeholder is:

1. More extroverted or introverted
2. More sensing (e.g., analytical) or intuitive
3. More judging (e.g., wants planning, strategy, and control, and is stressed by last-minute revisions or unaccountability) or perceiving (e.g., seeks options, learns as things unfold, and is stressed by over planning or micromanagement)
4. More thinking (e.g., is task-focused, logical, and is stressed by mistakes) or feeling (e.g., values relationships, consensus, and is stressed by conflict)

The training helps the MBB identify the behaviors that are most productive for each student's own personality type and for dealing with others' personality types. For example, let's assume that, as the MBB, you're the introverted-intuitive-feeling-perceiving type.

Your introversion preference requires, among other things, that you give yourself quiet time to think things through. When dealing with someone having the opposite behavior preference, extroversion, you must appreciate their need for feedback, dialogue, and active participation in developing ideas.

With an intuition preference, you focus on the big picture but with your opposite, sensing, you give lots of facts and step-by-step explanations.

With a feeling preference, you put emphasis on working relationships, are expressive, want consensus, and can be stressed by conflict. With your opposite, thinking, you recognize the need for accu-



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racy and logic, and that mistakes can cause stress.

Your perceiving preference means that you can handle spontaneity, learn as things unfold, and seek options. Over planning can give you stress. Your opposite, judging, emphasizes planning, strategy, and control, and can be stressed by last-minute revisions.

Once these personality characteristics are understood, the training goes on to consider how personality preferences affect leadership, learning, communication, team dynamics, conflict, problem solving, decision making, and organizational development.

Certifications for teaching the Myers-Briggs instrument are available at a number of different organizations. Two of the major ones are the Association for Psychological Type International, www.apptinternational.org; and the Center for Applications of Psychological Type, www.capt.org. Both organizations offer a wealth of information. A conference on the subject, "Convergence: Maximizing Human Potential in Organizations," www.16types.com, takes place March 6–8, 2008, in Irvine, California. CPP Inc. (formerly Consulting Psychology Press), www.cpp.com, publishes the Myers-Briggs test and materials on this instrument as well as other personality type tools.

An informal Myers-Briggs self-evaluation can be taken online at www.humanmetrics.com/cgi-win/JTypes2.asp.

Processes and tools

A fully professional curriculum should include the traditional approaches to accounting, business strategies, goals, and measures, and then use these, together with enterprise improvement, business tracking, process capability, Six Sigma strategy, project selection alternatives, and metrics at the corporate and operational levels.

The issues included are often associated with lean Six Sigma tools, as well as with how they are connected—through a detailed process-execution roadmap. Tool application is illustrated at the project as well as the enterprise level.

A proper MBB curriculum includes the theory of constraints, the Bayes theorem of probability, data collection, measurements to reduce firefighting, control-chart options, process capability, lean thinking and principles, workflow analysis,

measurement-systems analysis, process modeling, working with ideas (including benchmarking, affinity diagramming, and tree diagramming), and a detailed tool review.

A few of the additional topics that should be covered are:

- Sampling distribution
- Nonparametric testing
- Advanced regression

- Variance components
- Balanced analysis of variance and general linear models
- Highly fractional design of experiments techniques
- Value-stream mapping
- Lean (including 5S, *kaizen*, and total productive maintenance)
- Mistake proofing
- Response surface methods



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Certification

The certification process for an MBB must be rigorous. To qualify for an MBB training program, students should be certified as Black Belts by a recognized certification body, provide documentation verifying completion of at least three successful

process-improvement projects as a process leader, and have experience teaching or coaching lean Six Sigma methodologies for a minimum of 40 hours. It should be noted that being a trainer isn't a requirement for becoming an MBB. Experience in coaching and mentoring is a satisfactory substitute.

Following training, students should provide project reports from at least three process improvement and/or design for

Six Sigma projects, including the project charter, a summary of application methods and tools used, and validated project financial benefits with an authorized sign off. (A sample report template would be needed for this documentation.)

Course completion should be recognized after a student provides a copy of the completion certificate, a supervisor letter of recommendation, and an organizational value chain with performance metric hand-off assessment in a format consistent with MBB training homework assignments between weeks one and two of training. A detailed report of a project led as an MBB candidate should also be required. The project may be a new enterprise-level value-chain development effort or a reopened Black Belt project that generated documented improvement, using a more detailed define, measure, analyze, improve, and control effort with methods learned during the course.

The education of an MBB

Consistent with their extraordinary responsibilities, MBBs require training that's broad-based and business-oriented. Indeed, the training should prepare them to become valued partners of organizational leaders. Excellence in project execution represents a small part of an MBB's contributions to the organization.

Curriculum design must be updated constantly to incorporate new technological developments and emerging management disciplines. MBB candidates must approach the training with energy and commitment, given that their organizations are providing the needed support. Maintaining integrated enterprise excellence in a challenging economy requires nothing less.

About the author

Forrest W. Breyfogle III is the founder and CEO of Smarter Solutions Inc. (www.smartersolutions.com), and creator of the Integrated Enterprise Excellence measurement and improvement system. An ASQ Fellow, he has written widely and spoken at leading conferences. His books include Implementing Six Sigma (Second Edition, John Wiley and Sons Inc., 2003), for which he received the Crosby Medal. His upcoming book will describe the IEE system. **QD**

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About the Author
Forrest Breyfogle, III
Integrated Enterprise Excellence



In a professional career spanning over a quarter century, Forrest Breyfogle has established himself as a leading edge thinker, a prolific author, an innovative consultant, a world-class educator, and a successful business executive. His work is documented in eleven books and over ninety articles on the topic of quality improvement.

A professional engineer, Forrest is also a member of the board of advisors for the University of Texas Center for Performance Excellence. He is the founder and CEO of Smarter Solutions, Inc., an Austin, Texas based consulting firm offering business measurement and improvement consultation and education to a distinguished list of clients worldwide, including BAMA, CIGNA, Dell, HP, IBM, Oracle Packaging, Sherwin Williams, Cameron, TIMET, and TATA. He served his country on active duty in the US Army for 2 years, and has played an active leadership role in professional and educational organizations. Forrest received the prestigious Crosby Medal from the American Society for Quality (ASQ) in 2004 for his book, *Implementing Six Sigma* (second edition). This award is presented annually by the American Society for Quality to the individual who has authored a distinguished book contributing significantly to the extension of the philosophy and application of the principles, methods, or techniques of quality management

He is a widely recognized authority in the field of management improvement and is a frequent speaker before professional associations and businesses. His earlier work in the field of management science has been widely acclaimed. A previous book, *Implementing Six Sigma*, sold over 40,000 copies and still ranks among the top Amazon books in Applied Mathematics/Engineering Statistics and Industrial Engineering /Quality Control.

He founded Smarter Solutions in 1992 after a 24-year career at IBM. The associates of Smarter Solutions specialize in helping companies throughout the world improve their bottom line and customer satisfaction through the implementation of techniques that are beyond traditional Lean Six Sigma and the balanced scorecard methodologies. His latest and most extensive work has been in the documentation of a new system of enterprise management, the Integrated Enterprise Excellence (IEE) system, in a series of four books. IEE provides a detailed roadmap that builds on and integrates the best practices of earlier disciplines like Six Sigma, Lean, TQM, PDCA, DOE, and TPS combined with innovative analytical tools to produce improvements at the highest level of an enterprise.

In addition to assisting hundreds of major clients in the wise implementation of improvement systems worldwide, Forrest has also developed over 300 hours of classroom instruction used to train executives, managers, and Black Belt practitioners to plan for, implement, and manage IEE systems. He also leads formal seminars and workshops worldwide.

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