Putting Best Practices to Work

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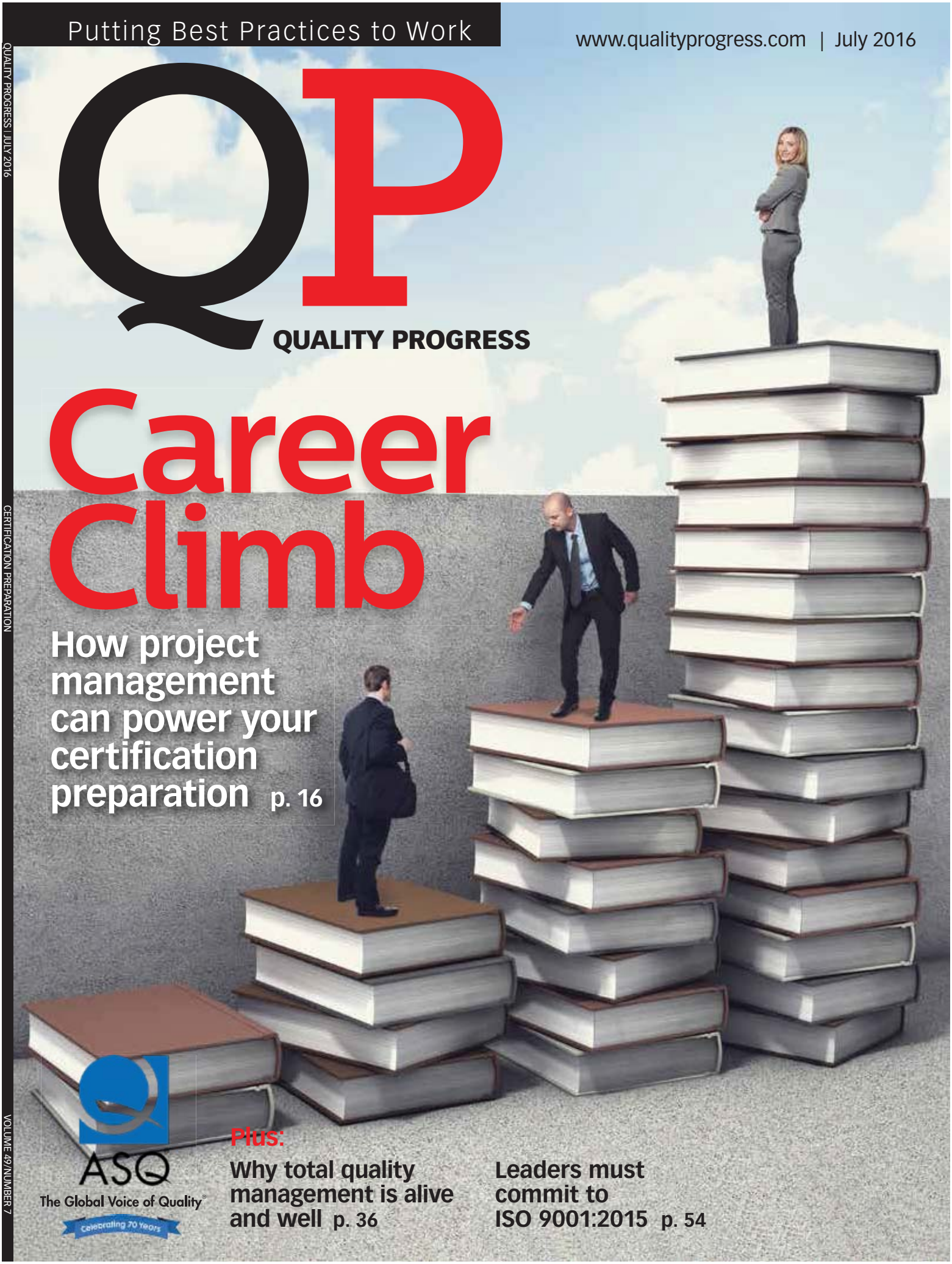
QUALITY PROGRESS

Career Climb

How project management can power your certification preparation p. 16



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Lesson Plan

Kick-start your career with certifications

LAST MONTH, I visited Washington, D.C., to attend my industry association's premier event, Association Media & Publishing's Annual Conference. While there, I attended the association's Excel Awards, which honors the best work from the association publishing world. Receiving an Excel Award is one of the greatest achievements you can attain in this profession, and that feather in your cap can add great credibility to your résumé and LinkedIn profile. On top of that, there's a plaque that you can proudly display in your office. The award leaves no doubt that you're a winner.

Associations, in general, have their own respective award or recognition programs, and ASQ is no exception. The difference with ASQ, though, is that you get something more valuable and sustaining than a shiny plaque—you get knowledge. And with knowledge comes power. That is what ASQ certifications are meant to do.

Earning ASQ certifications can be challenging. I've heard from readers who were discouraged and stressed, or who simply gave up after trying and failing a couple of times. Failing isn't fun, especially when you feel you should know the subject matter like the back of your hand.

This month, we've got your back. In "A Quick Study," p. 16, learn about how project management techniques can be put to use in building a study plan to help you pass a certification exam. In particular, using a prioritization matrix, Bloom's Taxonomy and a work breakdown structure can be great tools to organize and focus on the material you must know.

Author Kristy Kistner writes that this extra effort can pay big dividends at the end of the study process, just like it did for her. "Being adequately prepared helped me overcome test anxiety and feel comfortable on exam day."

Two other feature articles in this issue make the case for pursuing certifications: In "Clear Pathway," p. 22, the authors answer commonly asked questions for those who may be hesitant about investing time and effort into these career-advancing opportunities. In "Pulling It All Together," p. 28, the author covers many of the ins and outs of professional certifications—in particular, ASQ's offerings—and the payoff that waits for those individuals who achieve these special recognitions.

In related news, ASQ recently announced plans to transition its certification testing to a computer-based process. So starting in September, no more paper and pencils—just computers. The change will allow for quicker results, enhanced security, additional testing days and something that's always music to the ears of quality professionals: a more streamlined process. Visit http://asq.org/cbt to study up on more details about this exciting development. QP

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A Quick

Use a **project management approach** to prepare for exams

by Kristy Kistner

PURSUING ASQ CERTIFICATIONS can send people through a common preparation process: They read all the certification material available on ASQ's website, ensure they understand the body of knowledge (BoK) and draw up plans to pass the exam.

To pass an exam, you must have an organized study plan and apply your efforts to BoK topics you feel are your weaknesses.

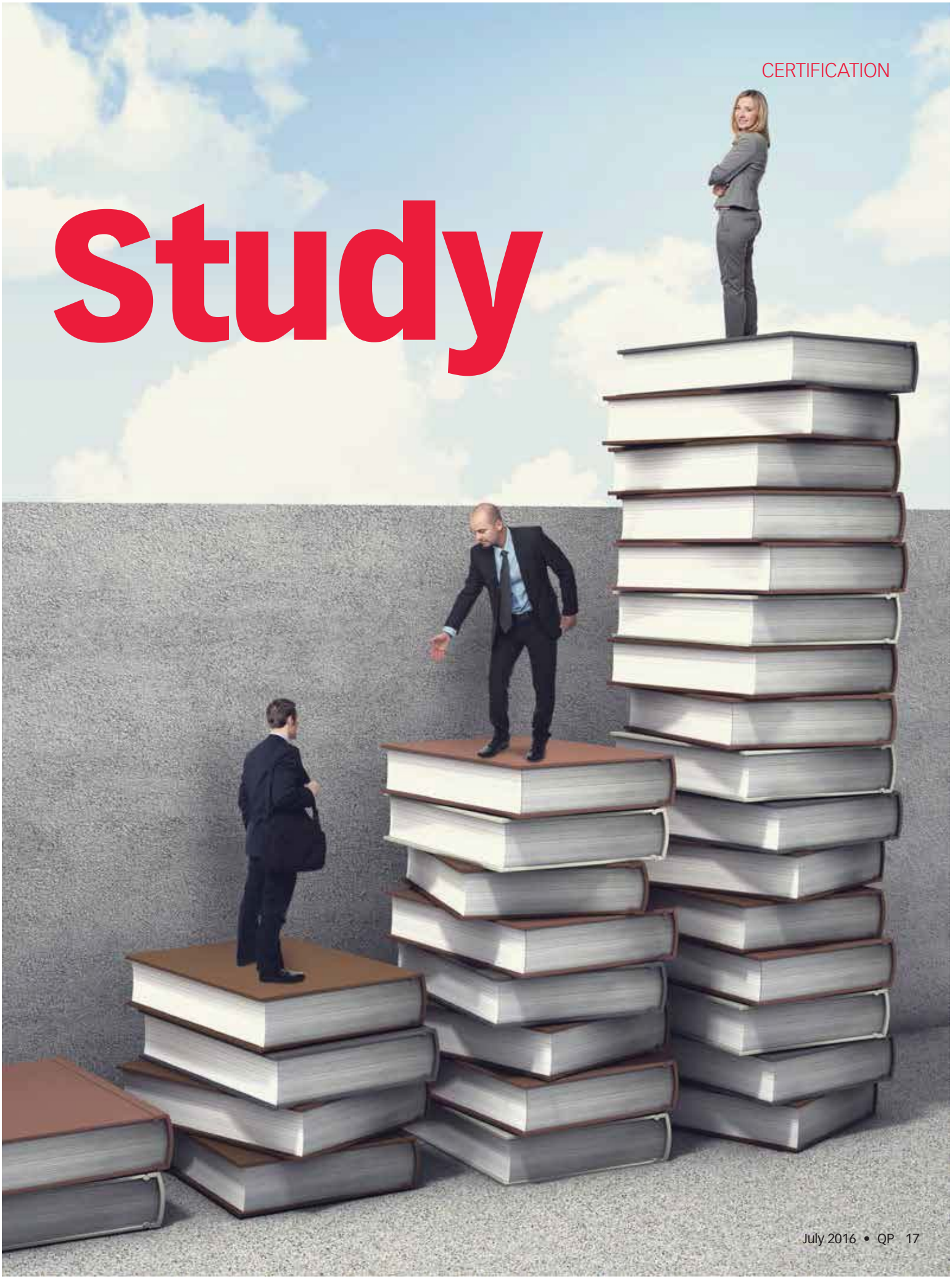
Because preparing for a certification exam is a project, using project management tools, such as a work breakdown structure (WBS), can help you organize your study method.

Creating a prioritization matrix will focus your efforts, and developing an index of your study materials will provide you an easy reference guide to use during an exam.

In 50 Words Or Less

- By using project management techniques, those taking certification exams can create more effective and comprehensive study plans.
- Using a prioritization matrix and Bloom's Taxonomy helps individuals find areas of a body of knowledge on which to focus their studies, and helps them create more effective open-book reference materials.

Study



Work breakdown structure example / TABLE 1

WBS No.	Item	Start	Finish
1.0	**Apply**	July 2	Aug. 15
1.1	**Create résumé**	July 2	Aug. 4
1.2	**Complete application**	Aug. 4	Aug. 10
1.3	**Submit**	Aug. 10	Aug. 15
2.0	**Prepare for exam**	July 2	Oct. 22
2.1	**Purchase and receive study materials and training courses:** • Study item No. 1—Order from (list source) • Study item No. 2—Order from (list source) • Study item No. 3—Order from (list source) • Training course No. 1—Order from (list source) • Training course No. 2—Order from (list source)	July 2	July 9
2.2	**Review study materials**	July 9	Aug. 13
2.2.1	**Study item No. 1** (Aim for reading 100 pages per week)	July 9	Aug. 6
2.2.1.1	Chapters 1-8 (pp. 1-111)	July 9	July 16
2.2.1.2	Chapters 9-20 (pp. 112-205)	July 9	July 16
2.2.1.3	Chapter 21-Appendix J	July 16	July 23
2.2.2	**Study item No. 2**	July 23	July 30
2.2.3	**Study item No. 3**	July 23	Aug. 13
2.2.3.1	Sections I-II (71 pages)	July 23	July 30
2.2.3.2	Sections III-IV (138 pages)	July 30	Aug. 6
2.2.3.3	Sections V-VI (94 pages)	Aug. 6	Aug. 13
2.2.3.4	Sections VII-VIII, appendix (120 pages)	Aug. 6	Aug. 13
2.3	**Complete training courses**	Aug. 13	Nov. 19
2.3.1	**Training course No. 1**	Aug. 13	Aug. 27
2.3.1.1	Sections 1-2	Aug. 13	Aug. 20
2.3.1.2	Sections 3-4	Aug. 20	Aug. 27
2.3.1.3	Section 5 and post-course exam	Aug. 27	Sept. 3
2.3.2	**Training course No. 2**	Sept. 3	Sept. 17
2.3.2.1	Sign up for course	Aug. 20	Sept. 3
2.3.2.2	First half	Sept. 3	Sept. 10
2.3.2.3	Second half	Sept. 10	Sept. 17
2.3.3	**Training course No. 3**	Sept. 24	Oct. 22
2.3.3.1	Answer book (sections 2-6)	Sept. 24	Oct. 1
2.3.3.2	Answer book (sections 7-8)	Oct. 1	Oct. 8
2.3.4	**Question bank**	Oct. 15	Oct. 22
2.3.4.1	Subject No. 1 # of questions: % of exam: % scored of practice questions:	Oct. 15	Oct. 22
2.3.4.2	Subject No. 2 # of questions: % of exam: % scored of practice questions:	Oct. 15	Oct. 22
2.3.4.3	Subject No. 3 # of questions: % of exam: % scored of practice questions:	Oct. 15	Oct. 22
2.3.4.4	Subject No. 4 # of questions: % of exam: % scored of practice questions:	Oct. 15	Oct. 22
2.3.4.5	Subject No. 5 # of questions: % of exam: % scored of practice questions:	Oct. 15	Oct. 22
	Break	Oct. 22	Oct. 29
2.3.5	**Electronic exam**	Oct. 29	Nov. 19
2.3.5.1	Subject No. 1	Oct. 29	Nov. 5
2.3.5.2	Subject No. 2		
2.3.5.3	Subject No. 3	Nov. 5	Nov. 12
2.3.5.4	Subject No. 4		
2.3.5.5	Subject No. 5	Nov. 12	Nov. 23
2.3.5.6	Subject No. 6		
2.4	**Prepare materials to take to exam**	Oct. 1	Nov. 30
2.5	**Final review**	Nov. 23	Nov. 30
3.0	**Take exam**		Dec. 1

Creating a WBS

A WBS is used for breaking down a project into easily manageable components (see Table 1). To organize your certification study plan, begin with the following steps:

- **Break the study plan into lower-level chunks of work:** Determine the large chunks that must be completed for your study plan to succeed, and assign a number to each chunk.
- **Break down each component:** Continue breaking down the tasks until you can estimate the amount of time you'll need to complete each.
- **Determine timeframes for each task:** Identify the planned start and completion date for each task. As your work progresses, revise planned dates to sustain a realistic schedule.

Focus on your weaknesses

A BoK includes topic areas and subtext that identify specific content that may be on the exam. Focus your study efforts by creating a matrix and assigning a strength level to each topic based on your knowledge level.

You can list the major sections, or for a more detailed view, include subsections and descriptions of each. Table 2 shows an example of how a prioritization matrix can help.

Consider Bloom's Taxonomy

ASQ uses the six levels of cognition of Bloom's Taxonomy to indicate questions' complexity for each BoK topic, and they're listed from least to most complex (see Table 3, p. 20).

You can determine the required level of preparation by including levels in your prioritization matrix and using them to gauge your strength level for each topic. Topics requir-

ing higher cognitive levels warrant more in-depth preparation. For topics with a cognitive level of "apply," you must remember, understand and apply that area's concepts. In this topic, a question might ask for a definition (remember) or a calculation (apply). For a topic with an "evaluate" level, you also will be expected to analyze and evaluate (make a judgment on) the concepts.

ASQ's certification handbooks include sample exam questions for each level of cognition such as:

> A lot of 500 units is submitted by a supplier whose past history indicates that about 1% defectives should be expected. A random sample of 30 units is collected from the lot. Which of the following

Prioritization matrix example / TABLE 2

Section	Subsection	Description	Level needed (taxonomy)	My level
Quality tools and techniques	Verification and validation	Define and distinguish between and use various methods of verifying and validating processes.	Analyze	Low
	Process variation	Identify and distinguish between common and special-cause variation.	Apply	Medium
Audit program management	Business and financial impact	Identify, describe and analyze an audit program's effect on the four cost-of-quality categories: prevention, appraisal, internal failure and external failure.	Analyze	Low
	Audit program management	Examine and summarize audit program results, trends and changes in risk to provide input to management reviews.	Evaluate	Medium
		Analyze audit results to standardize best practices and lessons learned across the organization.	Analyze	High
Audit competencies	Conflict resolution	Identify typical conflict situations (mild to vehement disagreements, auditee delaying tactics or interruptions) and determine appropriate techniques for resolving them, such as clarifying the question or request, reiterating ground rules, intervention by another authority or cool-down periods.	Analyze	Medium
	On-site audit resource management	Identify and apply techniques for managing audit teams, scheduling audit meetings and activities, or making logistical adjustments.	Apply	High
Audit process	Audit follow-up, closure	Identify and apply various elements of and criteria for audit closure.	Apply	Medium
	Audit performance	Identify and differentiate characteristics of objective evidence, such as observed, measured, confirmed or corroborated, and documented.	Analyze	High
Audit fundamentals	Professional conduct and consequences for auditors	Define and apply the ASQ Code of Conduct, concepts of due diligence and due care with respect to confidentiality and conflict of interest, and appropriate actions in response to the discovery of illegal activities or unsafe conditions.	Apply	Low
	Types of quality audits	Identify elements such as audit purpose, data gathering techniques or tracing that quality audits have in common with environmental, safety, financial and other types of audits.	Apply	Medium
		Define, differentiate and analyze various audit types by auditor-auditee relationship: first party, second party, third party, and internal and external.	Analyze	High

probability distributions could be best used to make predictions about the lot?

A. Normal.

B. Weibull.

C. Poisson.

D. Exponential.

This is an "evaluate" question because it requires candidates to use the information provided about the lot and their knowledge of the various distributions to determine which distribution is most appropriate to use.

Bloom's Taxonomy levels of cognition / TABLE 3

Level	Description
Remember	Recall or recognize terms, definitions, facts, ideas, materials, patterns, sequences, methods or principles.
Understand	Read and understand descriptions, communications, reports, tables, diagrams, directions or regulations.
Apply	Know how and when to use ideas, procedures, methods, formulas, principles or theories.
Analyze	Break information into its constituent parts to recognize their relationships to one another and how they are organized. Identify sublevel factors or salient data from a complex scenario.
Evaluate	Make judgments about the value of proposed ideas or solutions by comparing the proposal to specific criteria or standards.
Create	Put parts or elements together in such a way as to reveal pattern or structure that was not clearly there before. Identify which data or information from a complex set are appropriate to examine further or from which supported conclusions can be drawn.

Study material index example / TABLE 4

Subject	Study item No. 1	Study item No. 2	Study item No. 3	Study item No. 4
Subject No. 1	p. 15	p. 290	pp. 211, 217-224	
Subject No. 2	p. 70		p. 245	
Subject No. 3	p. 12		p. 16	p. 7
Subject No. 4		pp. 114, 185	p. 142	
Subject No. 5			p. 80	p. 61
Subject No. 6	p. 33	p. 172	p. 133	p. 113
Subject No. 7	p. 62			
Subject No. 8	p. 81	p. 309		

Study materials index

Selecting and evaluating reference materials is an important part of preparing for a certification exam, and ASQ specifies a long list of references on its online certification pages. To decide which references you need, consider your knowledge, experience and what should be bolstered. The prioritization matrix will identify topics for you that need more focus.

ASQ allows you to bring reference materials to most certification exams.[1] For these to be effective, however, information must be easy to locate. Highlighting key topics and terms, and developing a cross-reference index that includes page numbers from each book will ensure you find information efficiently during an exam.

Apply your knowledge

The preceding was the project management preparation method I used to pass ASQ's certified quality auditor exam. Being adequately prepared helped me overcome test anxiety and feel comfortable on exam day.

While passing the exam was my goal, preparing for the exam was a professional development experience that helped boost my career by strengthening my knowledge of unfamiliar BoK topics. QP

NOTE

1. With the exception of the constructed response portion of the manager of quality/organizational excellence exam and the performance-based portion of the Master Black Belt exam, ASQ exams are open book. Personally generated materials and notes from training or refresher courses are allowed, assuming they meet certain ASQ criteria. Visit http://asq.org/cert/faq/open-book-exam for details on acceptable exam-day reference materials.

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