

CERTIFIED MANAGER OF QUALITY/ORGANIZATIONAL EXCELLENCE (CMQ/OE) BODY OF KNOWLEDGE MAP 2019

The Certified Manager of Quality/Organizational Excellence (CMQ/OE) Body of Knowledge (BoK) has been updated to ensure that the most current state of Manager of Quality/Organizational Excellence practice is being tested in the examination.

Part of the updating process is to conduct a job analysis survey to determine whether the topics in the 2014 BoK are still relevant to the job role of Manager of Quality/Organizational Excellences and to identify any new topics that have emerged since that BoK was developed. The results of the CMQ/OE job analysis survey showed that most of the topics that were in the 2014 BoK are still relevant to the job roles of Manager of Quality/Organizational Excellences.

The 2019 CMQ/OE BoK will be introduced at the **September 2019** administration. Both BoKs will be available online until November 1, 2019, at which time the 2014 BoK will be removed.

General comments about ASQ Body of Knowledge updates

When the Body of Knowledge (BoK) is updated for an ASQ exam, most of the material covered in the BoK remains the same. There are very few programs that change significantly over a 5-7 year period. One of the points that we make to all the exam development committees is that ASQ Certification Exams need to reflect “the state of practice” not “the state of the art.” This helps to keep the programs grounded in what people currently do, rather than being driven by the latest hot-topic improvement idea or trend. Typically, the biggest change in any updated BoK is in how the content is organized. When a new BoK is announced and posted on the ASQ website, we also include a “BoK Map” that highlights the changes between the two Bodies of Knowledge: old and new. The BoK map also clearly identifies any new content that has been added to the exam, as well as any content that has been removed from the exam. Below is a description of each column you will find in the BoK Map.

2014 BoK	2019 BoK Details	New Elements in 2019 BoK
This column ↑ indicates where the content appeared in the old BoK	↑ This column contains the complete content of the new BoK ↑	This column ↑ provides brief comments highlighting what is new or changed in the new BOK. If it is blank , it means that only minor changes have been made, if any.

With regard to exam preparation materials, you should be able to use any of the reference books that are currently listed on the bibliography for the exam program. These are the source materials that the exam development committees use to write questions and verify answers.

Specific comments about the 2019 CMQ/OE Body of Knowledge updates

The content covered in the CMQ/OE BoK primarily remained the same with the 2019 update. VI.B Supplier Risk Management was added as a new topic in the 2019 BoK. Additionally, there is no longer a constructed response (CR) portion in the exam, therefore the CR BoK Section has been removed. The exam will be 165 multiple-choice items, including multiple-choice questions related to scenario based/stimulus sets.

Table 1 below portrays the change in items allocated to each section of the BoK. The seven section names have remained the same. **Table 2** on Page 4 presents the 2019 CMQ/OE BoK and maps the topics to the 2014 BoK,

Table 1. BoK Section Item Allocation

BoK Sections	2014 BoK	2019 BoK	Change
Leadership	25	28	+3
Strategic Plan Development and Deployment	18	22	+4
Management Elements and Methods	30	31	+1
Quality Management Tools	30	30	0
Customer-focused Organizations	17	21	+4
Supply Chain Management	15	17	+2
Training and Development	15	16	+1

BOK Section**Summary of Changes**

I	<ul style="list-style-type: none"> • Increased number of questions by 3 • Added assessing impact of global changes in change management • Added critical thinking skills and Socratic questioning to leadership techniques • Revised subtext of Types of teams section, added virtual teams and removed workcells • Added affecting leadership style to stages of team development section
II	<ul style="list-style-type: none"> • Increased number of questions by 4 • Renamed section B1 to Risk analysis and added SWOT as a tool to section. • Added global market change to Market forces section • Added automation, autonotation, Quality 4.0, cloud computing and machine learning
III	<ul style="list-style-type: none"> • Increased number of questions by 1 • Removed reference to helping to develop job descriptions • Removed risk control and mitigation methods to remove overlap with FMEA in 4A3 • Added stakeholders to Knowledge management • Removed virtual teams to communication and technology • Added alternate project management methodologies to Project management • Removed skip-level meetings and added return data to Quality system effectiveness • Added additional performance excellence models
IV	<ul style="list-style-type: none"> • Added Kepner-Tregoe • Removed cycle-time reduction • Added standard work (training within industry) • Removed throughput (covered in 4B2) • Removed goal question-metric to keep options open for what statistical techniques may be applied • Added examples of reliability measures such as infant mortality and end of life • Removed estimating probability • Moved Qualitative assessment to section 5
V	<ul style="list-style-type: none"> • Increased number of questions by 4 • Added Qualitative assessment to this section, more applicable • Moved voice of the customer from customer needs to customer satisfaction and loyalty
VI	<ul style="list-style-type: none"> • Increased number of questions by 2 • Added Approval to title of sub-topic A • Added Supplier Risk Management topic
VII	<ul style="list-style-type: none"> • Increased number of questions by 1 • Added assess to training needs

Table 2. CMQ/OE BoK maps of topics

2014 BoK	2019 BoK Details	New Elements in 2019 BoK
	I. Leadership (28 Questions)	Increased # of questions from 25
1A1	A. Organizational Structures Define and describe organizational designs (e.g., matrix, flat, and parallel) and the effect that a hierarchical management structure can have on an organization. (Apply)	
	B. Leadership Challenges	
1B1	1. Roles and responsibilities of leaders Describe typical roles, responsibilities, and competencies of people in leadership positions and how those attributes influence an organization’s direction and purpose. (Analyze)	
1B2	2. Roles and responsibilities of managers Describe typical roles, responsibilities, and competencies of people in management positions and how those attributes contribute to an organization’s success. (Analyze)	
1B3	3. Change management Use various change management strategies to overcome organizational roadblocks, assess impacts of global changes, achieve desired change levels, and review outcomes for effectiveness. Define and describe factors that contribute to an organization’s culture. (Evaluate)	Added assessing the impacts of global change
1B4	4. Leadership techniques Develop and implement techniques that motivate employees and sustain their enthusiasm. Use negotiation techniques to enable parties with different or opposing outlooks to recognize common goals and work together to achieve them. Determine when and how to use influence, critical thinking skills or Socratic questioning to resolve a problem or move a project forward. (Create)	Added critical thinking skills and Socratic questioning
1B5	5. Empowerment Apply various techniques to empower individuals and teams. Identify typical obstacles to empowerment and appropriate strategies for overcoming them. Describe and distinguish between job enrichment and job enlargement, job design and job tasks. (Analyze)	Changed cognitive level from Apply to Analyze.
	C. Teams and Team Processes	
1C1	1. Types of teams Identify and describe different types of teams and their purpose, including process improvement, self-managed, temporary or ad hoc (special project), virtual, and work groups. (Understand)	Revised subtext, added virtual teams, and removed workcells.
1C2	2. Stages of team development Describe how the stages of team development (forming, storming, norming, performing) affect leadership style. (Apply)	Removed the word classic from subtext and added leadership style.
1C3	3. Team-building techniques	

2014 BoK	2019 BoK Details	New Elements in 2019 BoK
	Apply basic team-building steps such as using ice-breaker activities to enhance team introductions and membership, developing a common vision and agreement on team objectives, and identifying and assigning specific roles on the team. (Apply)	
1C4	4. Team roles and responsibilities Define and describe typical roles related to team support and effectiveness such as facilitator, leader, process owner, champion, project manager, and contributor. Describe member and leader responsibilities with regard to group dynamics, including keeping the team on task, recognizing hidden agendas, handling disruptive behavior, and resolving conflict. (Analyze)	
1C5	5. Team performance and evaluation Evaluate team performance in relation to established metrics to meet goals and objectives. Determine when and how to reward teams and celebrate their success. (Evaluate)	
1D	D. ASQ Code of Ethics Identify and apply behaviors and actions that comply with this code. (Apply)	
II. Strategic Plan Development and Deployment (22 Questions)		Increased # of questions from 18
2A	A. Strategic Planning Models Define, describe, and use basic elements of strategic planning models, including how the guiding principles of mission, vision, and values relate to the plan. (Apply)	
B. Business Environment Analysis		
2B1	1. Risk analysis Analyze an organization's strengths, weaknesses, opportunities, threats, and risks, using tools such as SWOT. Identify and analyze risk factors that can influence strategic plans. (Analyze)	Changed sub-topic name from SWOT to Risk.
2B2	2. Market forces Define and describe various forces that drive strategic plans, including existing competition, the entry of new competitors, rivalry among competitors, the threat of substitutes, bargaining power of buyers and suppliers, current economic conditions, global market changes, and how well the organization is positioned for growth and changing customer expectations. (Apply)	Added global market changes.
2B3	3. Stakeholder analysis Identify and differentiate the perspectives, needs, and objectives of various internal and external stakeholders. Ensure that the organization's strategic objectives are aligned with those of the stakeholders. (Analyze)	
2B4	4. Technology Describe how changes in technology can have long-term and short-term influences on strategic planning. Identify new and upcoming technologies that may impact business strategy and quality, such as automation, autonomation, Quality 4.0, cloud computing, or machine learning. (Understand)	Added new and upcoming technologies such as automation, autonomation, Quality 4.0, cloud computing and machine learning.

2014 BoK	2019 BoK Details	New Elements in 2019 BoK
2B5	5. Internal capability analysis Identify and describe the effects that influence an organization’s internal capabilities: human resources, facilities capacity, and operational capabilities. Analyze these factors in relation to strategy formation. (Analyze)	
2B6	6. Legal and regulatory factors Define and describe how legal and regulatory factors can influence strategic plans. (Understand)	
C. Strategic Plan Deployment		
2C1	1. Tactical plans Identify basic characteristics of tactics: specific, measurable, attainable, relevant, and time-specific, and how these are linked to strategic objectives. Evaluate proposed plans to determine whether they meet these criteria. (Evaluate)	
2C2	2. Resource allocation and deployment Evaluate current resources to ensure they are available and deployed in support of strategic initiatives. Identify and eliminate administrative barriers to new initiatives. Ensure that all internal stakeholders understand the strategic plan and have the competencies and resources to carry out their responsibilities. (Evaluate)	
2C3	3. Organizational performance measurement Develop measurements and ensure that they are aligned with strategic goals, and use the measures to evaluate the organization against the strategic plan. (Evaluate)	
2C4	4. Quality in strategic deployment Support strategic plan deployment by applying continuous improvement and other quality initiatives to drive performance outcomes throughout the organization. (Create)	
III. Management Elements and Methods (31 Questions)		Increased # of questions from 30
A. Management Skills and Abilities		
3A1	1. Principles of management Evaluate and use basic management principles such as planning, leading, delegating, controlling, organizing, and allocating resources. (Evaluate)	Changed cognitive level from Apply to Evaluate, revised subtext.
3A2	2. Management theories and styles Define and describe management theories such as scientific, organizational, behavioral, learning, systems thinking, and situational complexity. Define and describe management styles such as autocratic, participative, transactional, transformational, management by fact, coaching, and contingency approach. Describe how management styles are influenced by an organization’s size, industry sector, culture, and competitors. (Apply)	

2014 BoK	2019 BoK Details	New Elements in 2019 BoK
3A3	<p>3. Interdependence of functional areas</p> <p>Describe the interdependence of an organization's areas (human resources, engineering, sales, marketing, finance, research and development, purchasing, information technology, logistics, production, and service) and how those dependencies and relationships influence processes and outputs. (Understand)</p>	
3A4	<p>4. Human resources (HR) management</p> <p>Apply HR elements in support of ongoing professional development and role in quality system: setting goals and objectives, conducting performance evaluations, developing recognition programs, ensuring that succession plans are in place where appropriate. (Apply)</p>	Added quality system to ongoing professional development.
3A6	<p>5. Financial management</p> <p>Read, interpret, and use various financial tools including income statements, balance sheets, and product/service cost structures. Manage budgets and use the language of cost and profitability to communicate with senior management. Use potential return on investment (ROI), estimated return on assets (ROA), net present value (NPV), internal rate of return (IRR), and portfolio analysis to analyze project risk, feasibility, and priority. (Analyze)</p>	
3A6	<p>6. Risk management</p> <p>Identify the kinds of risk that can occur throughout the organization, from such diverse processes as scheduling, shipping/receiving, financials, production and operations, employee and user safety, regulatory compliance and changes. (Apply)</p>	Removed risk control and mitigation methods to remove overlap with FMEA in 4A3.
3A7	<p>7. Knowledge management (KM)</p> <p>Use KM techniques in identifying core competencies that create a culture and system for collecting and sharing implicit and explicit knowledge among workers, stakeholders, competitors, and suppliers. Capture lessons learned and apply them across the organization to promote best practices. Identify typical knowledge-sharing barriers and how to overcome them. (Apply)</p>	Added stakeholders.
B. Communication Skills and Abilities		
3B1	<p>1. Communication techniques</p> <p>Define and apply various modes of communication used within organizations, such as, verbal, non-verbal, written and visual. Identify factors that can inhibit clear communication and describe ways of overcoming them. (Apply)</p>	
3B2	<p>2. Interpersonal skills</p> <p>Use skills in empathy, tact, friendliness, and objectivity. Use open-minded and non-judgmental communication methods. Develop and use a clear writing style, active listening, and questioning and dialog techniques that support effective communication. (Apply)</p>	
3B3	<p>3. Communications in a global economy</p> <p>Identify key challenges of communicating across different time zones, cultures, languages, terminology, and business practices, and present ways of overcoming them. (Apply)</p>	Changed cognitive level from Understand to Apply.

2014 BoK	2019 BoK Details	New Elements in 2019 BoK
3B4	<p>4. Communications and technology</p> <p>Identify how technology affects communications, including improved information availability, its influence on interpersonal communications, and etiquette for e-communications. Deploy appropriate communication methods within virtual teams. (Apply)</p>	Added virtual teams.
C. Project Management		
3C1	<p>1. Project management basics</p> <p>Use project management methodology and ensure that each project is aligned with strategic objectives. Plan the different phases of a project: initiation, planning, execution, monitoring and controlling, and closure. Ensure the project is on-time and within budget. Consider alternate project management methodologies (linear, evolutionary, or iterative) as it applies to the project. (Evaluate)</p>	Added examples of alternate project management methodologies.
3C2	<p>2. Project planning and estimation tools</p> <p>Use tools such as risk assessment matrix, benefit-cost analysis, critical path method (CPM), Gantt chart, PERT, and work breakdown structure (WBS) to plan projects and estimate related costs. (Apply)</p>	
3C3	<p>3. Measure and monitor project activity</p> <p>Use tools such as cost variance analysis, milestones, and actual vs. planned budgets to monitor project activity against project plan. (Evaluate)</p>	
3C4	<p>4. Project documentation</p> <p>Use written procedures and project summaries to document projects. (Apply)</p>	
D. Quality System		
3D1	<p>1. Quality mission and policy</p> <p>Develop and monitor the quality mission and policy and ensure that it is aligned with the organization's broader mission. (Create)</p>	
3D2	<p>2. Quality planning, deployment, and documentation</p> <p>Develop and deploy the quality plan and ensure that it is documented and accessible throughout the organization. (Create)</p>	
3D3	<p>3. Quality system effectiveness</p> <p>Evaluate the effectiveness of the quality system using various tools: balanced scorecard, internal audits, feedback from internal and external stakeholders (including stakeholder complaints), warranty/return data analytics, product traceability and recall reports, and management reviews. (Evaluate)</p>	Removed skip-level meetings and added stakeholder complaints and return data analytics.
E. Quality Models and Theories		
3E2	<p>1. Quality management standards</p> <p>Describe and apply the requirements and basic principles of ISO 9000-based standards used to support quality</p>	Moved from 3E2 Revised name of sub-topic.

2014 BoK	2019 BoK Details	New Elements in 2019 BoK
	management systems. (Apply)	
3E1	<p>2. Performance excellence models</p> <p>Define and describe common elements and criteria of performance excellence models such as the European Excellence Award (EFQM), Excellence Canada, ASQ International Team Excellence Award (ITEA), or Malcolm Baldrige National Quality Award (MBNQA). Describe how their criteria are used as management models to improve processes at an organization level. (Understand)</p>	Added more examples of performance excellence awards.
3E3	<p>3. Other quality methodologies</p> <p>Describe and differentiate methods such as total quality management (TQM), continuous improvement, and benchmarking. (Apply)</p>	
3E4	<p>4. Quality philosophies</p> <p>Describe and apply basic methodologies and theories proposed by quality leaders such as Shewhart, Deming, Juran, Crosby, Feigenbaum, and Ishikawa. (Apply)</p>	
IV. Quality Management Tools (30 Questions)		
A. Problem-Solving Tools		
4A1	<p>1. The seven classic quality tools</p> <p>Select, interpret, and evaluate output from these tools: Pareto charts, cause and effect diagrams, flowcharts, control charts, check sheets, scatter diagrams, and histograms. (Evaluate)</p>	
4A2	<p>2. Basic management and planning tools</p> <p>Select, interpret, and evaluate output from these tools: affinity diagrams, tree diagrams, process decision program charts (PDPCs), matrix diagrams, prioritization matrices, interrelationship digraphs, and activity network diagrams. (Evaluate)</p>	
4A3	<p>3. Process improvement tools</p> <p>Select, interpret and evaluate tools such as root cause analysis, Kepner-Tregoe, PDCA, six sigma DMAIC (define, measure, analyze, improve, control), and failure mode and effects analysis (FMEA). (Evaluate)</p>	Added Kepner-Tregoe.
4A4	<p>4. Innovation and creativity tools</p> <p>Use various techniques and exercises for creative decision-making and problem-solving, including brainstorming, mind mapping, lateral thinking, critical thinking, the 5 whys, and design for six sigma (DFSS). (Apply)</p>	
4A5	<p>5. Cost of quality (COQ)</p> <p>Define and distinguish between prevention, appraisal, internal, and external failure cost categories and evaluate the impact that changes in one category will have on the others. (Evaluate)</p>	
B. Process Management		
4B1	<p>1. Process goals</p>	

2014 BoK	2019 BoK Details	New Elements in 2019 BoK
	Describe how process goals are established, monitored, and measured and evaluate their impact on product or service quality. (Evaluate)	
4B2	2. Process analysis Use various tools to analyze a process and evaluate its effectiveness on the basis of procedures, work instructions, and other documents. Evaluate the process to identify and relieve bottlenecks, increase capacity, improve throughput, reduce cycle time, and eliminate waste. (Evaluate)	
4B3	3. Lean tools Identify and use lean tools such as 5S, just-in-time (JIT), kanban, value stream mapping (VSM), quick-changeover (single-minute exchange of die), poke-yoke, kaizen, standard work (training within industry), and productivity (OEE). (Apply)	Added more examples of Lean tools.
4B4	4. Theory of constraints (TOC) Define key concepts of TOC: systems as chains, local vs. system optimization, physical vs. policy constraints, undesirable effects vs. core problems, and solution deterioration. Classify constraints in terms of resources and expectations as defined by measures of inventory, and operating expense. (Understand)	Removed throughput, it is covered in 4B2
C. Measurement: Assessment and Metrics		
4C1	1. Basic statistical use Use statistical techniques to identify when, what, and how to measure projects and processes. Describe how metrics and data gathering methods affect resources and vice-versa. (Apply)	Removed goal question metric as the only example of statistical techniques.
4C2	2. Sampling Define and describe basic sampling techniques such as random and stratified. Identify when and why sampling is an appropriate technique to use. (Understand)	
4C3	3. Statistical analysis Calculate basic statistics: measures of central tendency (mean, median, mode), and measures of dispersion (range, standard deviation, and variance). Identify basic distribution types (normal, bimodal, skewed) and evaluate run charts, statistical process control (SPC) reports, and other control charts to make data-based decisions. (Evaluate)	
4C4	4. Measurement systems analysis Understand basic measurement terms such as accuracy, precision, bias, linearity. Understand the difference between repeatability and reproducibility in gauge R&R studies. (Understand)	
4C5	5. Trend and pattern analysis Interpret graphs and charts to identify cyclical, seasonal, and environmental data trends. Evaluate control chart patterns to determine shifts and other trend indicators in a process. (Evaluate)	
4C6	6. Process variation Analyze data to distinguish between common and special cause variation. (Analyze)	

2014 BoK	2019 BoK Details	New Elements in 2019 BoK
4C7	7. Process capability Recognize process capability (C_p and C_{pk}) and performance indices (P_p and P_{pk}). (Understand)	
4C8	8. Reliability terminology Define and describe basic reliability measures such as infant mortality, end of life (e.g. bathtub curve), mean time between failures (MTBF) and mean time to repair (MTTR). Understand the value of estimating reliability to meet requirements or specifications. NOTE: Reliability calculations will not be tested. (Understand)	Added infant mortality and end of live as examples of reliability measures. Also reworded the subtext.
V. Customer-Focused Organizations (21 Questions)		Increased # of questions from 17
A. Customer Identification and Segmentation		
5A1	1. Internal customers Define internal customers and describe the impact an organization's treatment of internal customer will have on external customers. Evaluate methods for influencing internal customers to improve products, processes, and services and evaluate the results. (Evaluate)	
5A2	2. External customers Define external customers and describe their impact on products and services. Evaluate strategies for working with them and integrating their requirements and needs to improve products, services, and processes. (Evaluate)	
5A3	3. Customer segmentation Describe and assess the process of customer segmentation and its impact on aligning service and delivery to meet customer needs. (Evaluate)	
4C9	4. Qualitative assessment Identify subjective information such as verbatim comments from customers, observation records, and focus group output. Describe how the subjective information differs from objective measures, and determine when data should be captured in categories rather than numeric value. (Analyze)	
B. Customer Relationship Management		
5B1	1. Customer needs Use quality function deployment (QFD) to capture the voice of the customer (VOC) and examine customer needs in relation to products and services offered. Analyze the results to prioritize future development in anticipation of changing customer needs. (Analyze)	Moved voice of customer from 5B2 to 5B1.
5B2	2. Customer satisfaction and loyalty Develop systems to capture positive and negative customer feedback and experiences, using tools such as listening posts, focus groups, complaints and warranty data, surveys, and interviews. Use customer value analysis to calculate the financial impact of existing customers and the potential results of losing those customers. Develop corrective actions and proactive methods to improve customer satisfaction, loyalty, and retention levels. (Create)	

2014 BoK	2019 BoK Details	New Elements in 2019 BoK
5B3	<p>3. Customer service principles</p> <p>Demonstrate strategies that support customer service principles: courtesy, politeness, smiles, cheerfulness, attention to detail, active listening, empathy, rapid response, and easy access for information and service. (Apply)</p>	
5B4	<p>4. Multiple and diverse customer management</p> <p>Establish and monitor priorities to avoid or resolve conflicting customer requirements and demands. Develop methods and systems for managing capacity and resources to meet the needs of multiple customers. Describe the impact that diverse customer groups can have on all aspects of product and service development and delivery. (Evaluate)</p>	
VI. Supply Chain Management (17 Questions)		Increased # of questions from 15
6A	<p>A. Supplier Selection and Approval</p> <p>Define and outline criteria for selecting, approving, and classifying suppliers, including internal rating programs and external certification standards. (Analyze)</p>	Added Supplier approval and classification to this section and changed cognitive level from Create to Analyze.
New	<p>B. Supplier Risk Management</p> <p>Assess and manage supplier risk and the impact it may have on various internal processes of the organization. (Evaluate)</p>	New section
6B	<p>C. Supplier Communications</p> <p>Prepare and implement specific communication methods with suppliers, including regularly scheduled meetings and routine and emergency reporting procedures. Direct, communicate, and confirm explicit expectations so that the supplier is aware of critical product and delivery requirements. (Apply)</p>	Added communicate and confirming expectations. Changed cognitive level from Create to Apply.
6C	<p>D. Supplier Performance</p> <p>Define, assess, and monitor supplier performance in terms of quality, cost, delivery, and service levels, and establish associated metrics for defect rates, product reliability, functional performance, timeliness, responsiveness, and availability of technical support. (Evaluate)</p>	Changed cognitive level from Create to Evaluate.
6D	<p>E. Supplier Improvement</p> <p>Define and conduct supplier audits, evaluate corrective and preventive action plans, provide feedback, and monitor process improvements. (Evaluate)</p>	Changed cognitive level from Create to Evaluate.
6E	<p>F. Supplier Certification, Partnerships, and Alliances</p> <p>Define, appraise, and implement supplier certification programs that include process reviews and performance evaluations. Outline strategies for developing customer-supplier partnerships and alliances. (Evaluate)</p>	Changed cognitive level from Create to Evaluate.
6F	<p>G. Supplier Logistics and Material Acceptance</p> <p>Describe the impact purchased products and services can have on final product assembly or total service package, including ship-to-stock, and just-in-time (JIT). Describe the incoming material inspections process. (Understand)</p>	
VII. Training and Development (16 Questions)		Increased # of questions by 1
7A	<p>A. Training Plans</p>	

2014 BoK	2019 BoK Details	New Elements in 2019 BoK
	Develop and implement training plans that are aligned with the organization's strategic plan and general business needs, including leadership training and alignment of personal development plans. (Create)	
7B	B. Training Needs Analysis Use various tools and techniques such as surveys, performance reviews, regulatory guidances, and gap analyses to identify and assess training needs. (Evaluate)	Changed cognitive level from Create to Evaluate.
7C	C. Training Materials, Development, and Delivery Use various tools, resources, and methodologies to develop training materials and curriculum that address adult learning principles and the learning needs of an increasingly diverse workforce. Describe various methods of training delivery: classroom, workbooks, simulations, computer-delivered, on-the-job, and self-directed. Use mentoring and coaching to support training outcomes. (Apply)	
7D	D. Training Effectiveness and Evaluation Assess training effectiveness and make improvements based on feedback from training sessions, end-of-course test results, on-the-job behavior or performance changes, and departmental or area performance improvements. (Evaluate)	Changed cognitive level from Create to Evaluate.