BCRSP CRSTEX
Competency Profile Revision

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Presentation at the National Education Symposium
May 8, 2023

Outline

- Who is Meazure Learning?
- The purpose of the CRSTEX
- The current CRSTEX competencies
- The next generation of CRSTEX competencies
- Questions

Who is Meazure Learning?

- Meazure Learning was formerly known as Yardstick Assessment Strategies
- ML provides comprehensive, bilingual, customized expertise in competency-based testing, including competency development, assessment development, as well as test administration services and products
- At ML, the latest developments in computer and web technology meet leading psychometric expertise to deliver rigorous and creative high-stakes testing solutions

The Purpose of the CRSTEX

- To promote high national standards of occupational health and safety
- To provide a mechanism for practitioners to validate their competence
- To identify, through a recognized credential, those practitioners meeting the national standards
- To determine whether or not examinees are prepared to practice occupational health and safety, at a technician level, without risk to the public and the environment

Competencies

What is a competency-based exam?

- Also called criterion-based exam
- It is important to link competence with competencies
- Competency-based tests vs. knowledge-based tests
- Competencies are primarily used for exam development, but can also serve as basis for educational and training programs (e.g., learning objectives)

Competence

- Definitions of competence:
  - The ability to perform tasks in an effective manner (Landsheere, 1979)
  - The ability to perform the tasks and roles expected of a professional, whether newly qualified or experienced, to the standards expected by employers and the general public (IFAC, 1998)

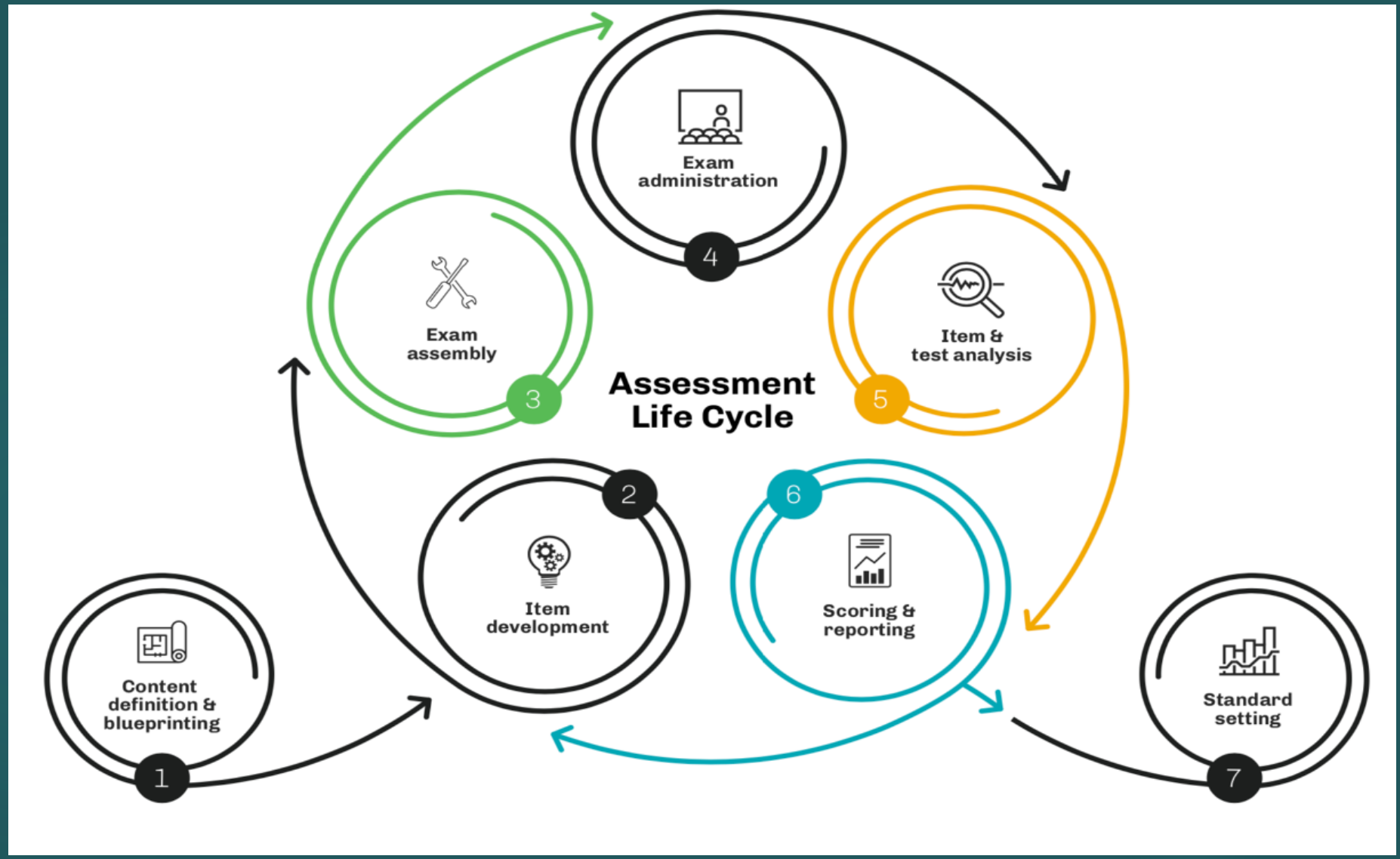
Definition of competencies

- Knowledge, skills, abilities, attitude and judgment acquired while completing training, a course, or educational program or required to practice an occupation
- Typically written as behaviour statements that reflect the integrated knowledge, abilities, skills, attitudes and judgment required of a practitioner
- Examples
  - Demonstrate an understanding of fire prevention
  - Demonstrate an understanding of risk assessments (e.g., inventory, risk matrix, prioritization, etc.)

Competency-based vs Knowledge-based tests

- The process:
  - Competency-based tests are the end product of a long process used to develop a valid, reliable and defensible method of assessment
- Competency-based exam:
  - Developed through a process and targets a specific competency (e.g., multiple steps involving SMEs)
- Knowledge-based exam:
  - Can be developed by anyone but the exam has not gone through the same rigorous process (e.g., a classroom test)

The Assessment Life Cycle



The Current CRSTEX Competency Framework

- Applied Safety Fundamentals (23 competencies)
- Auditing (3 competencies)
- Ergonomics (6 competencies)
- Fire Prevention and Protection (8 competencies)
- Health and Wellness (9 competencies)
- Law and Ethics (9 competencies)
- Management Systems (4 competencies)
- Occupational Hygiene (12 competencies)
- Risk Management (7 competencies)

Next Generation of CRSTEX competencies

- Best practice to revise/update competency profiles every 5 years or so
  - Ensure competency profile accurately reflects the scope of practice, role and responsibilities of the entre-level safety technician
  - Ensure a clear distinction between the expectations for CRST vs CRSP
  - Obtain the input of individuals who are now CRSTs
  - Revise/update the examination blueprint

CRSTEX Competency Profile Revision Process

- Initial meeting of CRSTEX Blueprint Revision Committee in April 2023
- Participants
  - BCRSP Chair
  - BCRSP Executive Director
  - CRST Exam Committee Chair
  - 8 CRSTs, including 2 current CRST Exam Committee members
- Task 1 – Review the current list of CRST competencies
  - Do the CRST competencies align with the current practice of a safety technician?
  - Are there any new emergent areas that should be included in the next generation of CRST competencies?
  - Are there any areas currently found in the CRST competencies that should NOT be included in the next generation of CRST competencies?

CRSTEX Competency Profile Revision Process

- Task 2 – Develop list of CRST Assumptions
  - What are the expectations of a CRST?
  - Objective to highlight the essential differences between CRST and CRSP
- Task 3 – Develop a draft list of competencies organized by competency domains
- Next steps
  - Document feedback and suggestions from NES session
  - Competency Validation Survey (mid-May 2023)
  - Finalization of competency profile and examination blueprint (June 2023)

CRST Assumptions

- Implementer/executor of OHS management systems.
- Developer and implementer of the tactics to support existing strategies.
- Communicates with relevant parties, building relationships as a basis for influence, mentoring and providing technical advice.
- Supports safe working environment by maintaining administrative processes, conducting training, and using state-of-the-art tools, processes, and standard practice solutions.
- Focuses on organization's primary processes operating in known contexts within established parameters.
- Accesses, evaluates, and uses a broad range of workplace and industry sources of information.
- Advice/action based on technical knowledge, experience, and input by other OHS professionals and subject matter experts.
- Strives to continually improve one's organization and self.
- Understands and operates within the boundaries of the CRST scope of practice.

The New CRSTEX Competency Profile

- Hazards Identification, Risk Assessment and Controls (HIRAC – 16 competencies)
- Health and Safety Systems (HSS – 11 competencies)
- Legal, Ethical, and Professional Practice (LEP – 9 competencies)
- Technical Safety Fundamentals (TSF – 17 competencies)
- Social and Human Sciences (SHS – 11 competencies)

Hazards Identification, Risk Assessment and Controls (16)

- Demonstrate an understanding of the hazards and controls of safe material handling and storage.
- Demonstrate an understanding of the hazards and controls of hoisting and conveying equipment (e.g., ropes, chains, slings, cranes, etc.).
- Demonstrate an understanding of the hazards and controls of powered mobile equipment, heavy machinery, and vehicles (e.g., forklifts, scissor lifts, bucket trucks, pickup trucks, excavators, etc.).
- Demonstrate an understanding of the hazards and controls associated with elevated work (e.g., ladders, fall protection, platforms, scaffolds, etc.).
- Demonstrate an understanding of the hazards and controls of hand and portable power tools.
- Demonstrate an understanding of the hazards and controls of machinery.
- Demonstrate an understanding of the hazards and controls associated with hot work (e.g., welding, cutting, brazing, etc.).
- Demonstrate an understanding of the hazards and the controls of hazardous energy (e.g., lockout/tagout of hydraulic, pneumatic, steam, mechanical, electrical hazards, etc.).
- Demonstrate an understanding of the hazards and controls associated with automated systems, equipment, and processes (e.g., robotics, remote starts, computer-controlled systems, nanotechnology, etc.).

Hazards Identification, Risk Assessment and Controls (16 – continued)

- Demonstrate an understanding of the hazards and controls associated with confined space entry.
- Demonstrate an understanding of the hazards and controls associated with working alone or remotely.
- Demonstrate an understanding of the hazards and controls associated with non-traditional work settings (e.g., home, vehicle, hybrid, etc.).
- Demonstrate an understanding of the characteristics, hazards and controls associated with gases, vapours, solvents, fumes, mists, nanomaterials, and dusts.
- Demonstrate an understanding of physical hazards and their controls (e.g., noise, ionizing and non-ionizing radiation, thermal stress, vibration, etc.).
- Demonstrate an understanding of biological hazards and their controls (e.g., mold, mycotoxins, influenza, viruses, etc.).
- Demonstrate an understanding of the hazards and controls associated with lasers.

Health and Safety Systems (11)

- Demonstrate an understanding of workplace inspections.
- Demonstrate an understanding of workplace incident investigations.
- Demonstrate an understanding of job hazard analyses/job safety analyses.
- Demonstrate an understanding of auditing principles and techniques.
- Demonstrate an understanding of management system audits.
- Demonstrate an understanding of risk management programs.
- Demonstrate an understanding of emergency preparedness and response programs.
- Demonstrate an understanding of fire safety programs.
- Demonstrate an understanding of the roles and functions of standard-setting bodies (e.g., National Fire Prevention Association, Underwriters Laboratory, Factory Mutual, Canadian Standards Association, European Union, etc.).
- Demonstrate an understanding of occupational hygiene prevention and protection programs (e.g., respiratory, hearing, thermal stress, medical surveillance, etc.).
- Demonstrate an understanding of the components of an ergonomics program (e.g., CSA Z412, etc.).

Legal, Ethical, and Professional Practice (9)

- Demonstrate an understanding of applicable legislation (e.g., Criminal Code, Hazardous Products Act, Transportation of Dangerous Goods Act, etc.)
- Demonstrate an understanding of the duties of workplace parties (e.g., supervisors, workers, joint health and safety committees/representatives, Internal Responsibility System, etc.).
- Demonstrate an understanding of codes and standards as applied to fire safety (e.g., National Building Code, National Fire Code, etc.).
- Demonstrate an understanding of the principles of worker rights and responsibilities.
- Demonstrate an understanding of the duties and powers of enforcement agencies (e.g., orders to comply, prosecutions, ticketing, administrative penalties, the appeal process, etc.).
- Demonstrate an understanding of the role of the certified safety technician with respect to the BCRSP Code of Ethics and Professional Conduct
- Demonstrate an understanding of professional errors and omissions (e.g., legal, ethical consequences and indemnification, etc.)
- Demonstrate an understanding of the limits of the professional practice (e.g., interaction with government agencies, scope of practice, boundaries of competence, etc.).
- Demonstrate an understanding of the role of a specialist (e.g., ergonomist, occupational hygienist, auditor, occupational therapist, occupational health nurse, etc.).

Technical Safety Fundamentals (17)

- Demonstrate an understanding of the hierarchy of controls.
- Demonstrate an understanding of the importance of safety in the design and procurement process for tools, equipment, and materials.
- Demonstrate an understanding of safe use, handling, storage, and disposal associated with chemicals, explosives, and radioactive material in the workplace.
- Demonstrate an understanding of selection and use of personal protective equipment.
- Demonstrate an understanding of electrical safety (e.g., bonding, grounding, circuit interrupter, etc.).
- Demonstrate an understanding of laboratory safety.
- Demonstrate an understanding of fire chemistry and behaviour.
- Demonstrate an understanding of fire prevention practices.
- Demonstrate an understanding of the delivery of training programs.
- Demonstrate an understanding of routes of entry of hazardous substances.
- Demonstrate an understanding of ventilation (e.g., local, general, supply, exhaust, etc.).

Technical Safety Fundamentals (17 - continued)

- Demonstrate an understanding of occupational exposure limits (e.g., Threshold Limit Values (TLVs), Biological Exposure Indices (BEIs), action levels, etc.).
- Demonstrate an understanding of hazard communication (e.g., symbols, safety data sheets, labeling, database research resources, hazard awareness training, etc.).
- Demonstrate an understanding of risk assessment principles and techniques (e.g., inventory, risk matrix, prioritization, etc.).
- Demonstrate an understanding of risk control processes (e.g., weight of evidence, ALARA, etc.).
- Demonstrate an understanding of statistics and analyses (e.g., mean, percentage, standard deviation, time weighted average, etc.).
- Demonstrate an understanding of emerging technology (e.g., artificial intelligence, drones, etc.) as tools to support safe work.

Social and Human Sciences (11)

- Demonstrate an understanding of ergonomics (e.g., anatomical, physiological, biomechanical, etc.).
- Demonstrate an understanding of the signs and symptoms of musculoskeletal injuries.
- Demonstrate an understanding of workplace health promotion (e.g., immunizations, hand hygiene, medical screening, etc.)
- Demonstrate an understanding of employee and family assistance programs.
- Demonstrate an understanding of wellness programs (e.g., stress management, physical fitness, etc.).
- Demonstrate an understanding of disability management programs (e.g., modified work, rehabilitation, return to work, etc.).
- Demonstrate an understanding of the effects of fatigue on worker health and performance (e.g., shift work, fit for work, overtime, etc.).
- Demonstrate an understanding of adult learning principles.
- Demonstrate an understanding of occupational illness and disease (e.g., asthma, chemical and environmental sensitivity, dermatitis, cancer, etc.).
- Demonstrate an understanding of workplace violence and harassment prevention programs.
- Demonstrate an understanding of the characteristics of a psychologically safe workplace (e.g., CSA Z1003-13).

Questions?

Contact Information

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Thank you!


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