



CREATING SCORING TOOLS FOR PRODUCT & PROCESS ASSESSMENTS



Jane Duncan
Craig Richardson



- ▶ **Determine the Critical Components of a JPR**
- ▶ **Construct a Product scoring tool**
 - ▶ **Group Exercise 1 – Create a Product scoring tool**
- ▶ **Extrapolate to create a Process scoring tool**

PART II: OBJECTIVES



- ▶ **Product assessment methodology is used to evaluate a candidate's ability to perform a cognitive skill which cannot be directly observed but is evaluated on how an individual completes the task outcome.**
- ▶ **An agency gives the student an assignment that requires the application of knowledge to yield a product.**
- ▶ **A trained evaluator scores this product after the student submits it. The product is graded using identified scoring criteria such as a rubric.**

PRODUCT ASSESSMENT METHODOLOGY

► **Create a:**

- **Budget**
- **Report**
- **Proposal**
- **Memorandum**
- **Lesson plan**
- **Incident action plan**
- **Outline**



SUITABLE PRODUCT METHODOLOGY JPRs



- ▶ 1. Task to be performed
- ▶ 2. Tools, equipment, or materials
- ▶ 3. Evaluation parameters and performance outcomes

CRITICAL COMPONENTS OF A JPR



- ▶ Assemble course materials, given a specific topic, so that the lesson plan and all materials, resources, and equipment needed to deliver the lesson are obtained.

LET'S REVIEW: 1041 (2019) 4.2.2



- ▶ 1041 (2019) 4.2.2 **Assemble course materials**, given a specific topic, so that the lesson plan and all materials, resources, and equipment needed to deliver the lesson are obtained.

TASK TO BE PERFORMED



- ▶ 1041 (2019) 4.2.2 Assemble course materials, given a specific topic, so that the lesson plan and all materials, resources, and equipment needed to deliver the lesson are obtained.

TOOLS, EQUIPMENT, OR MATERIALS



- ▶ 1041 (2019) 4.2.2 Assemble course materials, given a specific topic, so that the lesson plan and all materials, resources, and equipment needed to deliver the lesson are obtained.

EVALUATION PARAMETERS & PERFORMANCE OUTCOMES



- ▶ *Task: Assemble course materials*
- ▶ *Tools: given a specific topic*
- ▶ *Evaluation: so that the lesson plan and all materials, resources, and equipment needed to deliver the lesson are obtained*

CRITICAL COMPONENTS



- ▶ 1041 (2019) 4.2.2 – Assemble course materials, ~~given a specific topic,~~
- ▶ so that the lesson plan and all materials,
- ▶ resources,
- ▶ and equipment needed to deliver the lesson are obtained

CRITICAL COMPONENTS TO BE EVALUATED

Grading Rubrics for Benefits of Being Physically and Mentally Healthy

Criteria	Excellent (25)	Very Good (15)	Good (10)	Needs work (5)	Inadequate (0)
Discuss the purpose of NFPA 1500 and 1582 and positive and negative impacts following these standards.	Discussed the purpose of NFPA 1500 and 1582 and positive and negative impacts following these standards.	Discussed the purpose of NFPA 1500 and positive and negative impacts of following the standard but did not discuss 1582.	Discussed the purpose of NFPA 1582 and positive and negative impacts following the standard but did not discuss 1500.	Did not discuss the purpose of NFPA 1500 and 1582 and positive and negative impacts of following these standards.	Did not complete assignment.
Explain benefits of being mentally and physically fit.	Explained benefits of being mentally and physically fit.	Explained some benefits of being mentally and physically fit.	Explained a few benefits of being mentally and physically fit.	Did not explain any benefits of being mentally and physically fit.	Did not complete assignment.
Discuss benefits of member assistance programs and provide with list of Health and Wellness programs.	Discussed benefits of member assistance programs and provide with list of Health and Wellness programs.	Discussed some benefits of member assistance programs and provided with list of Health and Wellness programs.	Discussed a few benefits of member assistance programs and provided with list of Health and Wellness programs.	Did not discuss benefits of member assistance programs and provide with list of Health and Wellness programs.	Did not complete assignment.
Apply appropriate terminology, concepts, principles.	Application in appropriate terminology, concepts, principles were excellent.	Application in appropriate terminology, concepts, principles were very good.	Application in appropriate terminology, concepts, principles were good but needs work.	Application in appropriate terminology, concepts, principles needs work.	Did not complete assignment.



Grading Rubric for Project Components



Criteria	Inadequate=1 (Below Standard)	Adequate=2 (Meets Standard)	Above Average=3 (Exceeds Standard)	Exemplary=4 (Far Exceeds Standard)
Organization	Writing lacks logical organization. It shows some coherence but ideas lack unity. Serious errors.	Writing is coherent and logically organized. Some points remain misplaced and stray from the topic. Transitions evident but not used throughout essay.	Writing is coherent and logically organized with transitions used between ideas and paragraphs to create coherence. Overall unity of ideas is present.	Writing shows high degree of attention to logic and reasoning of points. Unity clearly leads the reader to the conclusion and stirs thought regarding the topic.
Level of Content related to content line item	Shows some thinking and reasoning but most ideas are underdeveloped and unoriginal.	Content indicates thinking and reasoning applied with original thought on a few ideas.	Content indicates original thinking and develops ideas with sufficient and firm evidence.	Content indicates synthesis of ideas, in-depth analysis and evidences original thought and support for the topic.
Project Grading Criteria	Main points lack detailed development. Ideas are vague with little evidence of critical thinking.	Main points are present with limited detail and development. Some critical thinking is present.	Main points well developed with quality supporting details and quantity. Critical thinking is weaved into points	Main points well developed with high quality and quantity support. Reveals high degree of critical thinking.
Grammar & Mechanics	Spelling, punctuation, and grammatical errors create distraction, making reading difficult; fragments, comma splices, run-ons evident. Errors are frequent.	Most spelling, punctuation, and grammar correct allowing reader to progress though essay. Some errors remain.	Project has few spelling, punctuation, and grammatical errors allowing reader to follow ideas clearly. Very few fragments or run-ons.	Project is free of distracting spelling, punctuation, and grammatical errors; absent of fragments, comma splices, and run-ons.
Style	Mostly in elementary form with little or no variety in sentence structure, diction, rhetorical devices or emphasis.	Approaches college level usage of some variety in sentence patterns, diction, and rhetorical devices.	Attains college level style; tone is appropriate and rhetorical devices used to enhance content; sentence variety used effectively.	Shows outstanding style going beyond usual college level; rhetorical devices and tone used effectively; creative use of sentence structure and coordination
Format	Fails to follow format and assignment requirements; incorrect margins, spacing and indentation; neatness of essay needs attention.	Meets format and assignment requirements; generally correct margins, spacing, and indentations; essay is neat but may have some assembly errors.	Meets format and assignment requirements; margins, spacing, and indentations are correct; essay is neat and correctly assembled.	Meets all formal and assignment requirements and evidences attention to detail; all margins, spacing and indentations are correct; essay is neat and correctly assembled with professional look.





► Assemble course materials

► so that the lesson plan and all materials are obtained

1. inadequate – No lesson plan and no materials are obtained
2. Adequate – A basic lesson plan and enough materials are obtained to deliver the lesson
3. Above Average – A comprehensive lesson plan and comprehensive materials are obtained
4. Exemplary – An excellent lesson plan and comprehensive materials are obtained and they are of exceptional quality

SCORING RUBRIC FOR ONE COMPONENT



► Assemble course materials

► so that all resources required are obtained

1. inadequate – No resources are obtained
2. Adequate – Enough resources are obtained to deliver the lesson
3. Above Average – Comprehensive resources are obtained
4. Exemplary – Comprehensive resources are obtained and they are of exceptional quality

SCORING RUBRIC FOR ONE COMPONENT



► Assemble course materials

► so that all equipment is obtained

1. inadequate – No equipment is obtained
2. Adequate – Enough equipment is obtained to deliver the lesson
3. Above Average – Comprehensive equipment is obtained
4. Exemplary – Comprehensive equipment is obtained and is of exceptional quality

SCORING RUBRIC FOR ONE COMPONENT



- ▶ Assemble course materials, given a specific topic, so that the lesson plan and all materials, resources, and equipment needed to deliver the lesson are obtained.
 - ▶ RK: Components of a lesson plan, policies and procedures for the procurement of materials, equipment, and resource availability
 - ▶ RS: None required

THE SAME APPLIES TO THE REQUISITE KNOWLEDGE AND REQUISITE SKILLS



LET'S CREATE SOME SCORING TOOLS



Group Exercise 1 – Create a Product scoring tool:

1. Determine critical components to be evaluated in the example JPR
2. Separate critical components to be measured
3. Complete a rubric line for each criterion
4. Use the worksheet provided



- ▶ Develop a project or divisional budget, given schedules and guidelines concerning its preparation, so that capital, operating, and personnel costs are determined and justified.

NFPA 1021 (2020) – 5.4.2

JPR:				
Task:				
Tools:				
Eval:				
CRITERIA	INADEQUATE = 1	ADEQUATE = 2	ABOVE AVERAGE = 3	EXEMPLARY = 4

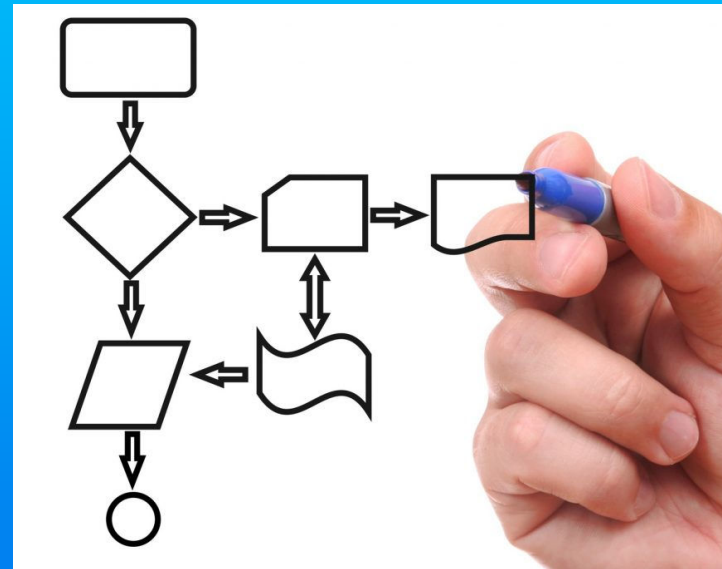


- ▶ **Process Assessment Methodology** is used to evaluate a candidate's ability to use mental activity to perform a cognitive skill.
- ▶ An evaluator cannot directly observe this mental process.
- ▶ The trained evaluator grades the student in real time, using identified scoring criteria such as a rubric which may facilitate inter-rater reliability by allowing the evaluator to differentiate consistently between different degrees of candidate performance.
- ▶ There may be more than one acceptable outcome



PROCESS ASSESSMENT METHODOLOGY

- ▶ **Conducting size-up of emergency**
- ▶ **Conducting an inspection**
- ▶ **Delivering a discipline or counselling session**
- ▶ **Interacting with the subject of an investigation or a member of the public**
- ▶ **Delivering a presentation**
- ▶ **Administering an examination**



SUITABLE PROCESS METHODOLOGY JPRs

- ▶ **1041 (2019) 8.2.2** Conduct a pre-burn inspection of the structure or prop, given a structure or prop for live fire training, so that structural damage is identified, structural preparation is determined, and safety concerns are identified and addressed prior to the live fire evolution.



TASK TO BE PERFORMED



- ▶ **1041 (2019) 8.2.2** Conduct a pre-burn inspection of the structure or prop, given a structure or prop for live fire training, so that structural damage is identified, structural preparation is determined, and safety concerns are identified and addressed prior to the live fire evolution.

TOOLS, EQUIPMENT, OR MATERIALS



- ▶ **1041 (2019) 8.2.2** Conduct a pre-burn inspection of the structure or prop, given a structure or prop for live fire training, so that structural damage is identified, structural preparation is determined, and safety concerns are identified and addressed prior to the live fire evolution.

EVALUATION PARAMETERS AND PERFORMANCE



- ▶ Task – Conduct a pre-burn inspection of the structure or prop
- ▶ Tools – given a structure or prop for live fire training
- ▶ Evaluation – so that structural damage is identified, structural preparation is determined, and safety concerns are identified and addressed prior to the live fire evolution.

CRITICAL COMPONENTS



- ▶ 1041 (2019) 8.2.2 Conduct a pre-burn inspection of the structure or prop
- ▶ ~~given a structure or prop for live fire training~~
- ▶ so that structural damage is identified,
- ▶ structural preparation is determined,
- ▶ and safety concerns are identified and addressed prior to the live fire evolution.

CRITICAL COMPONENTS TO BE EVALUATED



- ▶ **Conduct a pre-burn inspection of the structure or prop**
 - ▶ **so that structural damage is identified**
 1. inadequate – structural damage is not identified
 2. Adequate – all major structural damage is identified
 3. Above Average – all major and some minor structural damage is identified
 4. Exemplary – all structural damage is identified

SCORING RUBRIC FOR ONE COMPONENT



- ▶ **Conduct a pre-burn inspection of the structure or prop**
 - ▶ **so that safety concerns are identified and addressed**
 1. **inadequate** – safety concerns are not identified or addressed
 2. **Adequate** – all major safety concerns are identified and addressed
 3. **Above Average** – all major and some minor safety concerns are identified and addressed
 4. **Exemplary** – all major and minor safety concerns are identified and addressed

SCORING RUBRIC FOR ONE COMPONENT



- ▶ 1041 (2019) 8.2.2 Conduct a pre-burn inspection of the structure or prop, given a structure or prop for live fire training, so that damage is identified, structural preparation is determined, and safety concerns are identified and addressed prior to the live fire training evolution
 - ▶ RK: Facility requirements, structures, or prop considerations
 - ▶ RS: Observation techniques, inspection and evaluation skills

**THE SAME APPLIES TO REQUISITE
KNOWLEDGE AND REQUISITE SKILLS**

- ▶ Initiate the response to a reported emergency, given the report of an emergency, fire department SOPs, and communications equipment, so that all necessary information is obtained, communications equipment is operated correctly, and the information is relayed promptly and accurately to the dispatch center



NFPA 1001 (2019) – 4.2.1

JPR:				
Task:				
Tools:				
Eval:				
CRITERIA	INADEQUATE = 1	ADEQUATE = 2	ABOVE AVERAGE = 3	EXEMPLARY = 4





TASK	EVALUATION PARAMETERS	DONE	NOT DONE	SCORE
Criterion 1	• A	✓		2
	• B		✓	
	• C	✓		
Criterion 2	• A	✓		4
	• B	✓		
	• C	✓		
	• D	✓		
Criterion 3	• A	✓		1
	• B		✓	

TOTAL SCORE = 7 / 9



TASK	EVALUATION PARAMETERS	DONE	NOT DONE	SCORE
Initiate the response to a reported emergency so that:				
Necessary Information is obtained	• Callers name	✓		2
	• Caller's location		✓	
	• Description of the problem		✓	
	• Callers phone number		✓	
	• A description of any civilian intervention efforts	✓		
Communications equipment is operated correctly (Portable Radio)	• Turns on the radio	✓		6
	• Selects the correct channel	✓		
	• Pushes the "talk button" and waits for the radio to engage	✓		
	• Speaks clearly into the radio	✓		
	• Relays the information collected from the caller to the dispatch center	✓		
	• Releases the "talk button" and returns the radio to its location	✓		
Criterion 3	• A	✓		1
	• B		✓	
	• C		✓	

Candidate must score a minimum of 11/14 to be successful.

TOTAL SCORE = 9 / 14



- ▶ **1021 (2020) 6.4.5 Analyze and interpret records and data, given a fire department records system, so that validity is determined, and improvements are recommended.**
 - ▶ RK: The principles involved in the acquisition, implementation, and retrieval of information and data.
 - ▶ RS: The ability to use evaluative methods, to communicate orally and in writing, and to organize and analyze data.

WHAT ABOUT THIS JPR?



- ▶ **Critical Components of the JPR:**
 - ▶ Task to be performed
 - ▶ Tools, equipment, or materials
 - ▶ Evaluation parameters and performance outcomes
- ▶ Rubric is based on the Task and Evaluation Parameters
- ▶ Rubric involves a qualitative scale about what “right” looks like and how good is “good enough”

SUMMARY PART 2

