Decision-Making Quality Rubric

Assessing Human-AI Integrated Decision Processes

Rubric Overview

This rubric assesses the quality of students' decision-making processes when working with AI partners—focusing on how they integrate AI insights with human judgment in cybersecurity contexts.

Use with: Security Detective Teams, AI-Assisted Incident Response **Point range**: 4-16 points (4 criteria × 1-4 points each)

Assessment Criteria

Criterion 1: AI Input Integration (1-4 points)

Score	Descriptor	Observable Behaviors
4 - Advanced	Strategically integrates AI input at optimal decision points	Knows when to consult AI; synthesizes AI analysis with existing knowledge; adjusts decisions based on AI insights
3 - Proficient	Consistently incorporates AI input	Regularly consults AI during decision process; uses AI analysis to inform choices
2 - Developing	Inconsistent integration	Sometimes consults AI; doesn't always incorporate insights into decisions
1 - Emerging	Ignores or over-relies on AI	Either dismisses AI input entirely or accepts it without critical evaluation

Evidence to look for:

- Timing of AI consultations (before, during, after key decisions)
- References to AI insights in decision rationale
- Balance between AI reliance and independent judgment

Criterion 2: Critical Evaluation of AI Output (1-4 points)

Score	Descriptor	Observable Behaviors
4 - Advanced	Systematically evaluates AI recommendations against multiple criteria	Questions AI reasoning; compares AI analysis to evidence; identifies potential AI errors or limitations

Score	Descriptor	Observable Behaviors
3 - Proficient	Evaluates AI output thoughtfully	Asks follow-up questions; checks AI claims against available evidence
2 - Developing	Limited evaluation	Occasionally questions AI; accepts most AI output at face value
1 - Emerging	No critical evaluation	Treats AI output as authoritative; no verification attempts

Evidence to look for:

- Follow-up questions to AI
- Comparison of AI analysis to direct evidence
- Identification of AI errors or inconsistencies
- Requests for AI to explain reasoning

Criterion 3: Human Context Application (1-4 points)

Score	Descriptor	Observable Behaviors
4 - Advanced	Expertly applies human context AI cannot access	Identifies context AI lacks; explains how context changes analysis; makes decisions AI couldn't make
3 - Proficient	Applies relevant human context	Recognizes when human knowledge matters; adds organizational/cultural context to AI analysis
2 - Developing	Some context application	Occasionally adds context but doesn't consistently recognize its importance
1 - Emerging	No human context added	Relies entirely on AI analysis without adding human perspective

Evidence to look for:

- Statements about what AI doesn't know about the situation
- References to organizational culture, relationships, or history
- Decisions that require human judgment AI can't replicate

Criterion 4: Decision Justification (1-4 points)

Score	Descriptor	Observable Behaviors
4 - Advanced	Articulates comprehensive justification referencing both human and AI contributions	Explains reasoning clearly; cites specific AI insights AND human factors; acknowledges trade-offs
3 - Proficient	Provides clear justification	Explains reasoning with reference to AI analysis and human judgment

Score	Descriptor	Observable Behaviors
2 - Developing	Partial justification	Provides some reasoning but may not reference both human and AI contributions
1 - Emerging	No justification	Makes decisions without explaining reasoning

Evidence to look for:

- Written or verbal explanations of decision rationale
- References to specific AI recommendations
- Acknowledgment of human factors in decisions
- Recognition of trade-offs and alternatives considered

Scoring Guide

Total Score	Performance Level	Interpretation
14-16	Exemplary	Student demonstrates sophisticated integrated decision-making; ready for complex multi-stakeholder scenarios
10-13	Proficient	Student integrates human-AI perspectives effectively; may benefit from scenarios with greater ambiguity
6-9	Developing	Student shows emerging integration skills; needs practice with structured decision frameworks
4-5	Beginning	Student needs foundational instruction on human-AI decision integration

Activity-Specific Application

Security Detective Teams

Focus on Criteria 1 and 2—how students integrate AI pattern recognition with their own evidence analysis.

AI-Assisted Incident Response

Focus on Criteria 3 and 4—how students apply organizational context and justify response decisions.

Instructor Notes

Key observation points:

- Decision log entries (if using)

- Group discussion contributions
- Final decision presentations
- Written reflections

Common challenges:

- Students may struggle to articulate *why* human context matters
- Some students over-defer to AI recommendations
- Decision justification often requires explicit prompting

Part of "True Teamwork: Building Human-AI Partnerships for Tomorrow's Cyber Challenges" - NICE K12 2025