Evidence Analysis and Critical Thinking Workshop

Introduction to Evidence Analysis (15 minutes)

Before we begin analyzing evidence, let's warm up with some critical thinking exercises. Work with a partner to discuss:

1. What makes a piece of evidence reliable?
2. How can we tell if a source is trustworthy?
3. Why is it important to evaluate evidence in academic writing?

Evidence Strength Assessment (25 minutes)

Individual Task:

Read each evidence pair below and determine which is stronger. Explain your reasoning using specific criteria.

Pair 1:

- "Social media is harmful to teenagers' mental health."
- "A 2023 longitudinal study of 5,000 adolescents found that daily social media use exceeding 3 hours correlated with a 42% increase in anxiety symptoms."

Your Analysis:

Pair 2:

- "Most teachers prefer traditional teaching methods."

- "A 2022 survey of 1,500 certified educators across 25 states revealed that 78% incorporate digital learning tools daily in their classrooms."

Your Analysis:

Source Credibility Workshop (30 minutes)

Apply the CRAAP test to evaluate these sources:

Source 1: Wikipedia article on climate change

Criteria	Your Evaluation	Evidence for Rating
Currency		
Relevance		
Authority		
Accuracy		
Purpose		

Argument Construction Exercise (40 minutes)

Using the SEAL framework (Statement, Evidence, Analysis, Link), construct an argument for one of the following topics:

Choose one topic:

1. Should social media platforms be regulated for users under 18?
2. Is artificial intelligence beneficial for education?
3. Should remote work become the standard for office jobs?

Your Argument Structure:

Statement: (Write your main argument)

Evidence: (Provide at least two pieces of supporting evidence)

Analysis: (Explain how your evidence supports your argument)

Link: (Connect back to your main argument)

Counter-Argument Analysis (20 minutes)

Group Task:

For your chosen topic above, identify and analyze potential counter-arguments:

Counter-Argument	Supporting Evidence	Your Rebuttal

Logical Fallacies Workshop (35 minutes)

Identify and explain the logical fallacies in these arguments:

Example 1:

"Everyone uses social media these days. If you're not on social media, you must be antisocial."

Identify the fallacy:

Explain why it's problematic:

Example 2:

"Dr. Smith, who is a brilliant physicist, says climate change isn't real. Therefore, climate change must be fake."

Identify the fallacy:

Explain why it's problematic:

Example 3:

"If we allow students to use calculators in math class, next thing you know they'll want to use AI for everything and never learn anything!"

Identify the fallacy:

Explain why it's problematic:

Research Quality Assessment (45 minutes)

Evaluate these research methodologies:

Study 1: Online Survey of 100 Instagram Users

Evaluation Criteria	Strengths	Limitations
Sample Size		
Methodology		
Data Collection		

Statistical Evidence Analysis (40 minutes)

Case Study: Education Technology Implementation

Review the following data from a school district's technology integration program:

- Student engagement increased by 45%
- Test scores improved by an average of 12 points
- 87% of teachers reported positive outcomes
- Implementation costs decreased by 30%

Critical Analysis Questions:

1. How was student engagement measured?
2. What is the baseline for test score improvement?
3. How many teachers participated in the survey?
4. Over what time period were costs measured?

Your Analysis:

Bias Recognition Exercise (30 minutes)

Identify potential biases in these research scenarios:

Scenario 1: A study on smartphone addiction conducted only among university students in urban areas.

Potential Biases:

Scenario 2: A survey about work-life balance conducted during business hours on weekdays.

Potential Biases:

Evidence Synthesis Project (60 minutes)

Topic: Impact of Technology on Student Learning

Available Evidence:

Source 1: Academic journal article showing positive correlation between tablet use and engagement

Source 2: Survey of parents reporting concerns about screen time

Source 3: Longitudinal study on digital literacy development

Source 4: Case study of failed technology implementation

Synthesis Matrix:

Theme	Supporting Evidence	Contradicting Evidence	Conclusions
Student Engagement			
Learning Outcomes			
Implementation Challenges			

Reflection and Summary (15 minutes)

Individual Reflection:

1. What was the most valuable skill you learned today about evidence analysis?
2. How will you apply these critical thinking strategies in your future work?
3. What areas of evidence analysis do you still want to improve?

Key Takeaways:

- Evidence analysis requires systematic evaluation using established frameworks
- Strong arguments combine reliable evidence with thorough analysis
- Counter-arguments strengthen our understanding and improve our positions
- Critical thinking is an ongoing process of evaluation and reflection

Next Steps

To continue developing your evidence analysis skills:

- Practice applying the CRAAP test to sources you encounter
- Use the SEAL framework when constructing arguments
- Maintain a critical thinking journal
- Share these strategies with peers to reinforce learning