Unit 10:

Problem Solving, Critical Thinking, & Decision Making

Preparation for the NOCTI Broadcasting & Journalism Exam

Broadcast production does not stop when something goes wrong. Crews must decide quickly how to fix problems while the show continues. In this unit, students will learn how to evaluate their options, recognize workflow bottlenecks and common failure points, perform quick checks when systems fail, and use fix-it plans to restore production. Students will also learn how to identify personal bias, maintain studio awareness, and review each production afterward so mistakes do not happen again. These skills allow students to work calmly under pressure and keep broadcasts professional even during technical or human errors.

This unit represents approximately 6% of the total exam.

Section 1: Unit Vocabulary

📌 Term: Evaluating Options

Definition:

Evaluating options is the process of looking at all possible ways to solve a problem and choosing the solution that keeps the broadcast running with the least amount of disruption.

Example:

A camera stops sending video to the control room during a live show. The crew must decide whether to reboot the camera, switch to a backup camera, or move to a wide studio shot. By evaluating each option quickly, they select the solution that allows the broadcast to continue smoothly.

Why It Matters:

On the NOCTI test, students are often given a production problem and several possible solutions. The question asks which action should be taken first. Understanding how to evaluate options helps students choose the solution that restores production quickly instead of selecting an answer that wastes time or creates a bigger problem.

📌 Term: Rule of Thumb

Definition:

A rule of thumb is a simple guideline based on experience that helps broadcasters make quick decisions when there is not enough time to analyze every detail.

Example:

A student learns that if audio levels suddenly drop, the first thing to check is whether a microphone battery has died. This rule of thumb saves time because it points the crew to the most common cause first.

Why It Matters:

On the NOCTI test, students may be asked to identify the most likely cause of a technical problem. Knowing common rules of thumb helps students recognize the best first step in a troubleshooting situation and choose the answer that reflects real broadcast practice.

📌 Term: Personal Bias

Definition:

Personal bias is when a person’s opinions, preferences, or beliefs influence how they make decisions instead of relying only on facts.

Example:

A student may prefer using one camera operator over another and assume that person made the mistake when a shot is framed poorly, even when the real problem was a technical issue. This bias can lead to the wrong solution being chosen.

Why It Matters:

On the NOCTI test, students may see scenarios where a wrong assumption leads to the wrong solution. Understanding personal bias helps students recognize when an answer choice is based on opinion instead of evidence and select the response that relies on facts and proper troubleshooting.

📌 Term: One-Sided Thinking

Definition:

One-sided thinking is when a person only looks for information that supports what they already believe and ignores other possible explanations.

Example: If a producer believes a microphone problem is always caused by the same cable, they may keep replacing that cable without checking other equipment, even when the real problem is a mixer setting.

Why It Matters:

On the NOCTI test, questions may describe a problem that has more than one possible cause. Students who understand one-sided thinking will recognize when an answer only considers one explanation and will choose the option that reflects a broader, more accurate evaluation of the situation.

📌 Term: Studio Awareness

Definition:

Studio awareness is knowing what is happening around you in the studio at all times, including which cameras are live, who is speaking, what graphics are ready, and what problems may be developing.

Example:

A student working in the control room notices that a camera operator is struggling to frame a shot and alerts the director before the camera is taken live.

Why It Matters:

On the NOCTI test, students are often asked to choose the best action in a production scenario. Questions may describe multiple problems happening at once. Students who understand studio awareness will recognize which issue is most important to fix first and choose the answer that keeps the broadcast running smoothly.

📌 Term: Risk vs. Reward

Definition:

Risk vs reward is the process of comparing what could go wrong with what could be gained before making a decision during production.

Example:

A producer must decide whether to air breaking news that has not been fully verified. The reward is being first to report the story. The risk is damaging credibility if the information is incorrect.

Why It Matters:

On the NOCTI test, students may be given a situation where acting quickly has benefits but also serious consequences. Understanding risk vs reward helps students choose the answer that protects the station's professionalism while still meeting production demands.

📌 Term: Workflow Bottleneck

Definition:

A workflow bottleneck is any part of the production process that slows everything else down because too many tasks depend on it.

Example:

If only one computer is available for editing but several stories must be finished at the same time, that editing station becomes a bottleneck and delays the entire broadcast.

Why It Matters:

On the NOCTI test, students may be asked to identify what is causing a production delay. Recognizing a workflow bottleneck helps students choose the answer that explains why work is backing up instead of selecting a solution that does not fix the real problem.

📌 Term: Common Failure Point

Definition:

A common failure point is a part of the broadcast system that frequently causes problems or breaks down during production.

Example:

Wireless microphone batteries often die without warning. Because this happens so often, wireless mics are considered a common failure point in live production.

Why It Matters:

On the NOCTI test, students are often asked what should be checked first when a problem occurs. Knowing common failure points helps students select the answer that reflects the most likely cause of a technical issue..

📌 Term: What You Give Up

Definition:

What you give up is what is lost when one option is chosen over another during production.

Example:

If the crew decides to spend time fixing a broken camera, they may miss capturing an important moment happening somewhere else in the studio. The missed moment is what they gave up by choosing that option.

Why It Matters:

On the NOCTI test, students may be asked to decide between two possible actions. Understanding what you give up helps students choose the answer that shows awareness of trade-offs and the real consequences of production decisions.

📌 Term: Quick Check

Definition:

A quick check is a fast inspection of the most likely causes of a problem before deeper troubleshooting begins.

Example:

When a camera feed disappears, the operator quickly checks whether the cable is unplugged or the camera is powered on before assuming the camera is broken.

Why It Matters:

On the NOCTI test, students may be given a scenario where a problem appears suddenly. Understanding quick checks helps students select the answer that shows the correct first step instead of choosing a solution that is too extreme or time-consuming.

📌 Term: Backup Trigger

Definition:

A backup trigger is the event that signals it is time to stop using the main system and switch to a backup plan.

Example:

If the main microphone stops working during a live broadcast, that failure becomes the backup trigger to immediately switch to the spare microphone.

Why It Matters:

On the NOCTI test, students may be asked when it is appropriate to activate a backup system. Understanding backup triggers helps students choose the answer that shows the correct moment to switch to a backup instead of waiting too long and risking dead air.

📌 Term: Fix-It Plan

Definition:

A fix-it plan is a clear, step-by-step list of actions used to solve a problem and restore normal production.

Example:

When audio drops out, a fix-it plan might include checking the microphone battery, verifying the mixer channel is on, swapping the cable, and switching to a backup microphone if needed.

Why It Matters:

On the NOCTI test, students may be asked to choose the best sequence of actions to fix a technical problem. Knowing how a fix-it plan works helps students select the answer that follows a logical troubleshooting order instead of jumping to the wrong solution.

Section 2: How Decisions Are Made

Every broadcast problem has more than one possible solution. The challenge is not finding a solution but choosing the best one. In this section, students will learn how to compare options, use experience to guide decisions, and recognize how personal opinions can interfere with clear thinking. These skills help broadcasters avoid guessing and make choices that keep productions accurate, fair, and professional.

📄 Evaluating Options

Evaluating options means carefully looking at all possible ways to fix a problem before taking action. In broadcasting, the first solution you think of is not always the best one. Choosing the wrong fix can waste time, interrupt the show, or create new problems. Learning how to evaluate options helps you stay calm and make smart decisions when something goes wrong in the studio.

When Do You Need to Evaluate Options?

You should evaluate your options when:

- A camera, microphone, or computer suddenly stops working
- A deadline is approaching and a task is unfinished
- A crew member is absent and responsibilities must be reassigned
- The show format changes at the last minute
- Breaking news interrupts your planned rundown

Common Options in a Broadcast Emergency

When a problem happens, you will usually have choices like:

- Try to fix the original equipment
- Switch to a backup system

- Change the camera angle or shot
- Skip a segment and move to the next one
- Use prerecorded material

Each option has pros and cons. Your job is to choose the one that keeps the broadcast going with the least disruption.

How to Evaluate Options Step-by-Step

1. **Identify the problem clearly**
   Example: The anchor microphone has no sound.
2. **List possible solutions**
   - Replace the microphone battery
   - Switch to the backup mic
   - Route audio through another channel
3. **Think about time**
   Do you have seconds or minutes to fix it?
4. **Think about impact**
   Which option keeps the audience from noticing the problem?
5. **Choose and act**
   Pick the option that solves the problem fastest and most safely.

Example Scenario

You are seconds from going live when Camera 2 freezes. You could reboot the camera, but that will take too long. You could also switch to a wide studio shot and continue the show. Evaluating your options helps you choose the wide shot so the audience never sees the problem.

NOCTI Test Connection

On the NOCTI exam, you may see questions that describe a problem and offer four different solutions. The correct answer is usually the option that keeps the broadcast running smoothly, not the one that sounds technical or complicated. If you understand how to evaluate options, you will be able to identify the best first step in any production emergency.

Rule of Thumb

A rule of thumb is a simple guideline learned from experience that helps broadcasters make fast decisions when there is no time to think through every detail. In the studio, many problems happen over and over. Over time, professionals learn what usually causes those problems and what usually fixes them first.

✍ When Do You Use a Rule of Thumb?

You use a rule of thumb when:

- A problem appears suddenly during a live broadcast
- You must act immediately to avoid dead air
- There is no time for full troubleshooting
- You recognize a situation that you have seen many times before

🧠 Common Broadcast Rules of Thumb

Here are some real examples used in studios:

- If audio disappears, **check the microphone battery first**.
- If a camera feed goes black, **check the cable connection**.
- If a graphic does not appear, **verify that the correct input is selected**.
- If a computer freezes, **restart the software before restarting the computer**.

These are not guesses. They are based on problems that happen most often.

How Rules of Thumb Save Time

Instead of testing every possible cause, a rule of thumb points you to the most likely problem first. This keeps the show moving and prevents unnecessary delays.

Example Scenario

During a live broadcast, the anchor's microphone suddenly goes silent. Instead of panicking or checking every setting on the audio board, you follow the rule of thumb and replace the battery. The audio returns within seconds.

NOCTI Test Connection

On the NOCTI test, students are often asked to choose the first thing they should check when a problem happens. Understanding rules of thumb helps you select the answer that reflects real broadcast experience instead of choosing an option that wastes time.

🎙️ Personal Bias

Personal bias is when your own opinions, preferences, or feelings affect how you judge a situation instead of relying on facts. In broadcasting, personal bias can cause you to blame the wrong person or choose the wrong solution because you think you already know the answer.

When Does Personal Bias Appear?

Personal bias often appears when:

- You assume a certain crew member caused the problem

- You believe a piece of equipment is always at fault
- You favor one solution without checking evidence
- You let frustration or stress guide your decisions

Why Personal Bias Causes Problems

When bias is involved, troubleshooting becomes emotional instead of logical. This can lead to wasted time, repeated mistakes, and damaged teamwork.

Example Scenario

A producer believes a camera operator is careless and assumes that operator caused a framing error. In reality, the camera had a loose mount. Because of personal bias, the wrong solution is chosen.

NOCTI Test Connection

On the NOCTI test, students may be given situations where assumptions lead to incorrect choices. Recognizing personal bias helps you identify answers based on evidence rather than opinion.

One-Sided Thinking

One-sided thinking happens when you only look for information that supports what you already believe and ignore other possible explanations.

When Does One-Sided Thinking Happen?

One-sided thinking often happens when:

- You are in a rush and skip troubleshooting steps
- You focus on one possible cause and ignore others
- You do not consider alternate solutions

Why One-Sided Thinking Is Dangerous

Broadcast problems rarely have only one cause. If you only check one possibility, the real issue may continue and become worse.

Example Scenario

If audio drops out and you immediately replace the same cable every time without checking other equipment, you may miss the real cause, such as a muted channel on the mixer.

NOCTI Test Connection

On the NOCTI test, questions may describe a problem with several possible causes. Students who avoid one-sided thinking will recognize the answer that considers multiple explanations instead of choosing the first option that sounds familiar.

Section 3: Awareness During Production

Broadcasting is not just about fixing problems after they happen. Professionals try to notice warning signs before something fails. This section teaches students how to stay alert in the studio, recognize slowdowns in the workflow, and identify parts of the system that are most likely to break.

Studio Awareness

Studio awareness means paying attention to everything happening around you during production. This includes knowing which cameras are live, which microphones are in use, what graphics are loaded, and whether crew members are struggling with their tasks.

When Is Studio Awareness Needed?

- During live broadcasts
- When multiple tasks are happening at the same time
- When new crew members are learning their roles
- When equipment is being switched or moved

Example Scenario

A director notices that the graphics operator is running behind and delays taking the lower third on air until it is ready. Because of studio awareness, the mistake is never seen by the audience.

NOCTI Test Connection

On the NOCTI test, you may be asked which problem should be handled first when several things go wrong at once. Students who understand studio awareness will choose the answer that prevents the most serious on-air issue.

Workflow Bottleneck

A workflow bottleneck is a place in the production process where work slows down because too many tasks depend on one person or piece of equipment.

Common Workflow Bottlenecks

- Only one editing computer for several projects
- One person responsible for uploading all finished videos
- Waiting on approvals before publishing content

Example Scenario

If everyone must wait for one editor to finish their segment before moving forward, that editor becomes the bottleneck and delays the entire broadcast.

NOCTI Test Connection

NOCTI questions may describe production delays. Recognizing a workflow bottleneck helps you identify what is actually slowing the process instead of choosing an answer that does not fix the real issue.

Common Failure Point

A common failure point is a part of the broadcast system that breaks or causes problems more often than other areas.

Typical Common Failure Points

- Wireless microphone batteries
- Loose HDMI or SDI cables
- Overloaded computers
- Weak network connections

Example Scenario

A wireless microphone cuts out during a show because the battery was not replaced. Since this happens often, the microphone battery is a common failure point.

NOCTI Test Connection

On the NOCTI test, you may be asked what should be checked first when equipment fails. Understanding common failure points helps you choose the most likely cause.

Section 4: Choosing the Right Response

When a problem happens during a broadcast, not every solution is a good one. Some fixes may solve the issue but create bigger problems, waste valuable time, or damage the quality of the show. This section teaches students how to decide which response keeps the production running smoothly while avoiding unnecessary risks.

Risk vs Reward

Risk vs reward means thinking about what could go wrong compared to what could be gained before acting.

When Should You Think About Risk vs Reward?

- When information is incomplete
- When a fix may affect broadcast quality
- When time is limited
- When credibility or accuracy is involved

Example Scenario

A reporter suggests airing breaking news that has not been fully verified. The reward is being first. The risk is reporting false information. A professional considers both before making the decision.

NOCTI Test Connection

NOCTI questions often ask which action best protects the station’s reputation while still solving the problem. Understanding risk vs reward helps you choose the safest professional response.

What You Give Up

What you give up is what is lost when you choose one option over another.

Common Trade-Offs in Broadcasting

- Time spent fixing equipment vs capturing live action
- Quality vs speed
- Perfect framing vs staying on schedule

Example Scenario

Spending too much time fixing a graphic may cause you to miss the next segment. That lost segment is what you gave up.

NOCTI Test Connection

Students may be asked to identify the hidden cost of a decision. Knowing what you give up helps you select the answer that shows awareness of trade-offs.

Quick Check

A quick check is a fast review of the most likely causes of a problem before deeper troubleshooting.

Common Quick Checks

- Is the device powered on?
- Is the cable connected?
- Is the correct input selected?
- Is the battery charged?

Example Scenario

When a camera feed disappears, the operator first checks the cable connection before replacing the camera.

NOCTI Test Connection

On the NOCTI exam, you may be asked what to check first in a technical failure. Understanding quick checks leads you to the correct first step.

Backup Trigger

A backup trigger is the moment you stop trying to fix the main system and switch to a backup plan.

Common Backup Triggers

- Audio drops out completely
- Video feed freezes during a live segment
- Software crashes

Example Scenario

When the main microphone stops working and quick checks fail, that failure becomes the trigger to use the backup microphone.

NOCTI Test Connection

NOCTI questions may ask when it is appropriate to switch to backup systems. Recognizing backup triggers helps you choose the right moment to act.

Section 5: Fixing the Problem

Recognizing a problem is only the first step. Broadcasters must also know how to fix it quickly and correctly. A clear plan prevents confusion, keeps everyone focused, and helps the production return to normal without creating new problems.

Fix-It Plan

A fix-it plan is a step-by-step list of actions used to solve a problem and restore production as quickly as possible.

When Is a Fix-It Plan Needed?

- When equipment stops working
- When a system failure interrupts the broadcast
- When a mistake keeps repeating
- When the cause of a problem is not immediately clear

Building a Fix-It Plan

A fix-it plan should always follow a logical order:

1. Identify the problem clearly
2. Perform quick checks
3. Test the most likely solution
4. Move to backup systems if needed
5. Confirm the problem is solved

Example Fix-It Plan

If audio is lost during a broadcast:

1. Check the microphone battery
2. Verify the mixer channel is on

3. Replace the cable
4. Switch to the backup microphone
5. Resume the show

NOCTI Test Connection

On the NOCTI exam, students may be asked to choose the correct order of actions when solving a technical problem. Understanding fix-it plans helps you select the answer that follows professional troubleshooting steps instead of random guesses.