

CLINICAL EDUCATION

Instructional Skills for Clinical Practice

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AARC APPROVED
2 CRCE Credit Hours

Preparing clinicians to teach, evaluate, and support learning in clinical practice

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1

Learner Objective

Develop effective instruction for students,
colleagues, patients, and families.

2

2

Introductory Information

3

3

Who & What Do Respiratory Therapists Teach?

Patient & Family Education

Disease

Explain the condition,
symptoms & treatment goals

Self-Monitoring

Recognize changes, follow
action plans & know when to
seek help

RT AS EDUCATOR

Procedures

What will happen, why it's
needed & what to expect

Equipment

Safe, effective use of
inhalers, oxygen, PAP &
devices

Medications

Purpose, schedule,
technique & common
precautions

Effective patient education helps turn a treatment into a skill the patient can use after discharge.

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Who & What Do Respiratory Therapists Teach?

Teaching Our Healthcare Colleagues

WHO WE TEACH

Orientees

Department workflows & expectations

Nurses

Respiratory procedures, devices and patient-care

Physicians

Respiratory equipment, therapies and clinical application

Other Practitioners

Respiratory-care knowledge & skills

WHAT WE TEACH

Policies & Procedures

Institutional and departmental standards

Respiratory Care Practices

How to perform therapies & procedures

Equipment & Technology

Safe, appropriate device use

Clinical Application

When, why & how to evaluate treatment

RTs are clinical resources: we teach not only how to perform respiratory care, but when, why, and how to evaluate its effectiveness.

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What Do We Teach RT Students?

Clinical education goes beyond teaching procedures.

1

The Clinical Environment

Department workflow • policies
• documentation • communication
• infection control

2

Respiratory Care Practice

Connect classroom knowledge
with real patients and clinical
decision-making

3

Hands-On Skills

Demonstrate • supervise practice
• provide feedback
• verify competency

4

Professional Conduct

Communication • teamwork
• accountability • reliability
• patient-centered behavior

Our goal is not simply to teach students how to perform respiratory procedures, it is to help them learn to think and behave like respiratory therapists.

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Goal Orientation: A Road Map for Instruction

1 WHERE ARE WE NOW?

Assess the starting point

What does the learner already know or know how to do?

2 WHERE ARE WE GOING?

Define the learning objective

What should the learner know or be able to do afterward?

3 HOW DO WE KNOW?

Verify learning

How will we determine that the objective was achieved?

CLINICAL EXAMPLE — Teaching ABG Sampling

Starting point: understands the steps → Goal: safely obtain an arterial sample →
Verification: observed competency

If the destination isn't clear, it is difficult to determine whether the teaching was successful.

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Goal Orientation: Instructional Goals

INSTRUCTIONAL GOAL

A desired outcome of instruction that may be stated broadly, without specific criteria or conditions for measuring achievement.

THE GOAL = THE DESTINATION

Improve the learner's ability to manage patients receiving mechanical ventilation.

WHAT'S MISSING?

- What specifically should the learner do?
- Under what conditions?
- How well must they perform?

Goals tell us WHERE we're going. Objectives tell us WHAT the learner must do to get there.

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Goal Orientation: Instructional Objectives

INSTRUCTIONAL OBJECTIVE

A precise statement of what the learner should be able to do, including the conditions and criteria used to measure success.

1

BEHAVIOR

What should the learner DO?

2

CONDITION

Under what circumstances?

3

CRITERIA

How well must they perform?

EXAMPLE — Mechanical Ventilation

Given a patient scenario, the learner will select appropriate initial ventilator settings with at least 90% accuracy.

A good objective makes learning observable and success measurable.

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Goal Orientation: Terminal & Enabling Objectives

TERMINAL OBJECTIVE — FINAL OUTCOME

The learner will safely initiate noninvasive ventilation on an appropriate patient.

ENABLING OBJECTIVES — INTERMEDIATE STEPS

1

Identify

indications & contraindications

2

Select

an appropriate interface

3

Choose

appropriate initial settings

4

Assess

the patient's response

5

Recognize

signs of NIV failure

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Competency Categories

COGNITIVE

KNOW

Information & Thinking

Understand respiratory concepts, interpret information and make decisions.

Example: Interpret ventilator data

PSYCHOMOTOR

DO

Physical Skills & Procedures

Perform clinical procedures correctly and safely.

Example: Obtain an ABG

AFFECTIVE

BE

Professional Behavior

Demonstrate empathy, accountability, teamwork, and respect.

Example: Communicate with a patient

A competent RT must KNOW what to do, be able to DO it, and BE professional while doing it.

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Competency-Based Education (CBE)

Progress is based on demonstrated competency—not simply time spent in training.

1

DEFINE

Identify the competencies

What must the learner know, do, and demonstrate?

2

DEMONSTRATE

Assess performance

Learners show they can perform the competency successfully.

3

ADVANCE

Progress after mastery

Learners advance when required competencies are achieved.

TRADITIONAL MODEL

Fixed time → Variable learning

CBE: Variable learning time → Required competency

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Summary & Review

1

WHO & WHAT WE TEACH

- Patients
- Families
- Colleagues
- Students

2

GOALS & OBJECTIVES

Start Point
Destination
Measurement

3

COMPETENCY- BASED EDUCATION

Know • Do • Be

Good teaching is not measured by what we present—
it is measured by what the learner can understand, apply, and
demonstrate.

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Learner Objectives

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Learning Objectives: What Should the Learner Be Able to Do?

DO

Describe the learner's expected behavior

OBSERVABLE

Can we see or hear the learner perform it?

MEASURABLE

Can we determine whether the learner achieved it?

THE ROAD MAP: What we teach → How we teach → How we evaluate

Example: "Interpret an ABG and identify the primary acid-base disorder."

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Functions of Learning Objectives

1 CONTENT

What should we teach?

Determine the instructional subject matter.

2 METHODS

How should we teach it?

Guide the selection of instructional methods and strategies.

3 EVALUATION

How will we measure it?

Guide development of quizzes, exams, checklists, and other assessments.

4 LEARNER DIRECTION

What am I expected to learn?

Help learners recognize the knowledge or skills they are expected to achieve.

**OBJECTIVE → CONTENT →
TEACHING METHOD → ASSESSMENT**

When these align, instruction becomes more focused and meaningful.

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Domains and Levels of Skills

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Skill Domains

COGNITIVE

THINK

Intellectual Skills

Knowledge
Understanding
Application
Analysis
Clinical reasoning

PSYCHOMOTOR

DO

Physical Skills

Hands-on performance
of clinical
skills and respiratory
procedures

AFFECTIVE

VALUE

Attitudes & Values

Professional conduct
demonstrated through
communication,
respect, accountability &
teamwork

Effective clinical education addresses all three: how learners **THINK**,
what they can **DO**, and how they conduct themselves.

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Cognitive Domain: Revised Bloom's Taxonomy

1 REMEMBER

Recall facts and basic concepts
Define
List
Identify

2 UNDERSTAND

Explain ideas or concepts
Describe
Explain
Summarize

3 APPLY

Use knowledge in a situation
Calculate
Demonstrate
Use

4 ANALYZE

Break information into parts and find relationships
Compare
Differentiate • *Interpret*

5 EVALUATE

Make judgments using criteria or evidence
Assess
Critique
Justify

6 CREATE

Combine knowledge to produce something new
Design
Develop • *Formulate*

RT example: Identify ventilator settings → Explain their purpose → Apply them → Analyze response → Evaluate effectiveness → Create a revised plan

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Bloom's Taxonomy at the Bedside

PATIENT SCENARIO: COPD exacerbation on NIV • increasing PaCO₂
• falling pH • worsening tachypnea

1 REMEMBER

What is the normal PaCO₂ range?

2 UNDERSTAND

Why is this patient's PaCO₂ elevated?

3 APPLY

What NIV changes could improve ventilation?

4 ANALYZE

Is the patient improving or failing NIV?

5 EVALUATE

Continue NIV, adjust it, or prepare for intubation? Why?

6 CREATE

Develop a plan for the next 30–60 minutes.

The question changes the cognitive demand, not the patient.

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Affective Domain: Krathwohl's Taxonomy



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Psychomotor Domain: Simpson's Taxonomy



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Why Levels of Complexity Matter

FOUNDATION

Remember • Understand

Build essential knowledge

APPLICATION

Apply • Practice

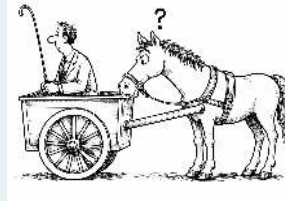
Use knowledge and develop skill

HIGHER PERFORMANCE

Analyze • Evaluate • Adapt

Manage more complex clinical situations

Trying to teach the complex skill
before the foundation is...



...putting the cart before the
horse.

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Writing Learning Objectives

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Writing Objectives: Describe the Behavior

Choose an **ACTION VERB** that matches the behavior and the level of performance expected.

AVOID VAGUE VERBS

Know • Understand
• Appreciate • Learn

These do not clearly describe an observable behavior.

USE OBSERVABLE ACTION VERBS

Identify • Explain • Demonstrate
• Analyze • Evaluate

Select the verb that reflects the level of learning you expect.

**Instead of “Understand ABGs” →
“Interpret an ABG and identify the primary acid-base disorder.”**

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Writing Learning Objectives: Conditions

OBJECTIVES DESCRIBE BEHAVIORS

Skill
+
Performance
Conditions

1. Skill: What will the learner do?

Use an observable, measurable **ACTION VERB**

2. Performance Conditions: Under what circumstances?

Written Examination • Laboratory Simulation
• Clinical Setting

Respiratory Care Examples

Written exam: Interpret an ABG • Simulation: Demonstrate bag-mask ventilation • Clinical: Perform an ABG puncture

What should the learner DO — and under what CONDITIONS?

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Writing Learning Objectives: Criteria for Success

OBJECTIVES DESCRIBE BEHAVIORS

Skill
+
Criteria for
Success

1. Skill — What will the learner do?

Use an observable, measurable ACTION VERB

2. Criteria for Success — How well must the learner perform?

≥ 90% Accuracy • Without Critical Error •
Within 60 Seconds

The criterion establishes the minimum acceptable level of performance.

Respiratory Care Examples

Interpret ABGs with ≥90% accuracy • Perform suctioning without critical error • Assemble a BVM within 60 seconds

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Example of a Complete Learning Objective

The learner will be able to identify the muscles of the foot on a diagram with at least 95% accuracy.

BEHAVIOR

Identify the muscles of the foot

What will the learner do?

CONDITION

On a diagram

Under what circumstances?

CRITERION

≥ 95% accuracy

How well must they perform?

**Behavior + Condition + Criterion =
A measurable learning objective**

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Not Valid Learning Objectives

Learner will
KNOW
the muscles of the foot

Learner will
UNDERSTAND
the function of the foot

Why are these invalid?

You cannot directly observe or measure whether a learner “knows” or “understands” something.

Use Observable, Measurable Behaviors Instead

Identify the muscles of the foot • Describe the function of the foot
• Explain how specific muscles contribute to movement

If you can't observe it or measure it, it isn't a strong learning objective.

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Steps in Writing Learning Objectives

- 1 **Identify the Target Skill**
What should the learner be able to do?
- 2 **Determine the Level of Performance**
What level of learning or complexity is expected?
- 3 **Select an Appropriate Action Verb**
Choose a measurable verb that matches the performance level.
- 4 **Write the Learner Statement**
“The learner will be able to...”
- 5 **Describe the Performance Conditions**
Under what circumstances will the skill be demonstrated?
- 6 **Define the Criteria for Success**
How well must the learner perform?

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Can You Fix This Objective?

BAD OBJECTIVE

“The learner will understand mechanical ventilation.”

Problem: “understand” isn’t measurable

BETTER OBJECTIVE

“Given a mechanically ventilated patient scenario, the learner will analyze ventilator waveforms and correctly identify the cause of patient-ventilator asynchrony in 4 of 5 cases.”

BEHAVIOR

Analyze
waveforms and
identify the cause

CONDITION

Given a
mechanically
ventilated patient
scenario

CRITERION

Correctly identify the
cause in 4 of 5 cases

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Summary & Review

Domains & Levels of Skills

Cognitive

Knowledge, reasoning, and
clinical decision-making

Psychomotor

Physical and procedural skills

Affective

Attitudes, values, and
professional behavior

Learning Objective Components

Action Verb

What will the learner do?

Conditions for Performance

Under what circumstances will
they do it?

Criteria for Success

How well must they perform?

**Strong objectives define an observable behavior and
a measurable standard for success.**

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Instructional Platforms

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Instructional Platforms & Aids

INSTRUCTIONAL PLATFORM

**The primary
medium used to
deliver instruction**

Examples: classroom lecture,
live webinar, simulation,
clinical instruction, online course

INSTRUCTIONAL AID

**A medium or tool
used to support the
platform**

Examples: slides, videos,
diagrams, handouts,
models, equipment

Platform = HOW instruction is delivered

Aid = WHAT supports the instruction

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Common Instructional Platforms

Lecture

Efficient delivery of information to larger groups

Oral Questioning

Socratic questioning to assess and stimulate thinking

Discussion

Learners exchange ideas, experiences, and perspectives

Tutorial

Individual or small-group guided instruction

Simulations & Games

Practice decision-making and skills in realistic scenarios

Drill & Practice

Repetition used to build accuracy, speed, and proficiency

Printed Media

Textbooks, handouts, guides, and other written resources

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Lecture as an Instructional Platform

LECTURE

One of the most commonly used instructional platforms

Limitation:

A pure “talking head” lecture can make learners passive.

Best Applications

Cognitive Domain

Present foundational knowledge and support learning through application and analysis.

Affective Domain

Provide information and perspectives that may influence attitudes and values.

Procedures

Introduce, explain, and describe procedures before demonstration and hands-on practice.

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Discussion as an Instructional Platform

APPLICATIONS

Cognitive Domain

Best suited for higher-level thinking: application, analysis, evaluation, and problem-solving.

Affective Domain

Explore attitudes, values, perspectives, and professional behavior.

Interpersonal Skills

Develop communication, listening, teamwork, and respectful disagreement.

BEST CONTEXT

Small Groups

Smaller classes make it easier for everyone to participate.

Round-Table Setting

Encourages interaction rather than instructor-centered communication.

Instructor as Facilitator

Guides, moderates, redirects, and keeps the discussion productive—without dominating it.

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Tutorial: Individualized Instruction

APPLICATIONS: All Learning Domains & Levels

ADVANTAGES

Interactive & Active

Learner participates, practices, asks questions, and receives immediate feedback.

Individualized

Pace, content, and feedback can be adjusted to the learner's needs.

Technology-Supported

Computer-based tutorials can provide scalable, self-paced instruction and feedback.

LIMITATIONS

Limited Reach

One-on-one instruction reaches relatively few learners at a time.

Time & Cost

Personal instruction can be inefficient and expensive compared with group teaching.

Instructor Skill

Effective tutoring requires strong observation, questioning, feedback, and coaching skills.

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Drill & Practice

DRILL

Cognitive Skills

Reinforces recall, recognition, calculations, and other previously learned knowledge.

PRACTICE

Psychomotor Skills

Builds proficiency with procedures through repeated hands-on performance.

CONTEXT FOR EFFECTIVE PRACTICE

Builds on Prior Instruction: The information or procedure should already have been taught and demonstrated.

Appropriate Setting: Procedural practice may occur in a skills laboratory, simulation setting, or clinical practicum.

Guided Feedback: An instructor or proctor should be available to observe, correct errors, and reinforce proper performance.

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Socratic Method: Learning Through Questions

APPLICATIONS

Higher-Level Cognitive Skills

Promotes analysis, evaluation, clinical reasoning, and problem-solving.

Affective Domain

Challenges assumptions and encourages learners to examine attitudes and values.

Professional Behavior

Develops communication, judgment, and the ability to explain and defend decisions.

BEST CONTEXT

Small Group

Allows follow-up questions and meaningful interaction.

Skilled Instructor

Requires purposeful questioning, active listening, and the ability to probe learner reasoning.

Engaged Learners

Learners must be willing to think, participate, explain, and reconsider their answers.

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Oral Questioning: Why We Ask Questions

Check Readiness

Verify prerequisite knowledge before introducing new material.

Activate Prior Knowledge

Recall existing knowledge to connect new concepts.

Focus Attention

Direct attention to key information.

Promote Active Learning

Connect new information with existing knowledge.

Rehearse Procedures

Have learners mentally sequence and explain the steps of a procedure.

Practice Problem-Solving

Require learners to apply knowledge, reason through cases, and justify decisions.

Explore Attitudes & Values

Stimulate reflection and discussion about affective material and professional behavior.

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Oral Questioning: Effective Techniques

Match the Cognitive Level

Ask questions at the level of thinking required by the learning objective.

One Question at a Time

Avoid stacking multiple questions together.

Prefer Open-Ended Questions

Use questions that require explanation rather than simple yes/no responses.

Be Clear & Focused

Avoid ambiguity; narrow the question enough that learners understand what is being asked.

Allow Wait Time

Give learners time to process the question and formulate an answer.

Use Cues & Probes

Provide prompts or follow-up questions that help learners develop their reasoning.

Provide Corrective Feedback

Clarify errors, reinforce correct reasoning, and explain how performance can improve.

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Socratic Questioning at the Bedside

CLINICAL SCENARIO

COPD on mechanical ventilation

• PaCO₂ 55 → 72 • pH 7.31 → 7.22 • Oxygenation unchanged

1

WHAT CHANGED?

PaCO₂ increased and pH decreased.

2

WHAT DOES THAT TELL YOU?

Alveolar ventilation has decreased.

3

WHAT DETERMINES PaCO₂?

Effective minute / alveolar ventilation.

4

WHAT COULD CAUSE IT?

Rate • tidal volume
• dead space • patient/ventilator problem

5

WHAT DO YOU ASSESS FIRST?

Patient → airway → circuit → ventilator

6

WHAT WOULD YOU CHANGE — AND WHY?

Develop and defend a treatment plan.

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Printed & Written Learning Materials

APPLICATIONS

Cognitive Domain

Build foundational knowledge, analysis, and evaluation.

Affective Domain

Explore attitudes and values through cases and reflection.

Professional Behavior

Reinforce expected practice through policies, standards, and cases.

TYPES OF WRITTEN MATERIALS

Textbooks & Reference Texts: Foundational knowledge and reference content

Instructor-Developed Materials: Handouts, study guides, cases, and worksheets

Journal Articles & Guidelines: Current evidence and professional recommendations

Curated Collections : Resources selected for a specific learning objective

Programmed / Self-Directed Material: Sequenced content for independent learning

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Written Materials: What the Learner Needs

READING SKILLS

Comprehend the vocabulary, concepts, and level of the material.

The material must match the learner's reading ability.

MOTIVATION

Remain engaged and persist without continuous instructor direction.

Independent learning requires the learner to do the work.

METACOGNITION

Recognize what is understood, what is not, and when help is needed.

Knowing what you know, and what you don't.

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Simulations & Games

SIMULATION

Representation of Reality

Recreates a clinical situation, task, or environment for learning and practice.

GAME

Simulation + Competition

Adds rules, goals, scoring, or competition to increase participation and engagement.

APPLICATIONS

Cognitive Domain: Useful across all levels, from recall to clinical reasoning, analysis, and decision-making.

Affective Domain: Especially useful for communication, teamwork, attitudes, values, and professional behavior.

Psychomotor / Procedures: Especially useful for practicing procedures, coordination, and responses to clinical events.

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Which Teaching Method Would You Choose?

- | | |
|---|---|
| <p>1 KNOWLEDGE
List three indications for NIV.</p> | BEST FIT
Lecture / Written Material |
| <p>2 CLINICAL REASONING
Evaluate whether a patient is responding to NIV or showing signs of failure.</p> | BEST FIT
Case Discussion / Socratic Questioning |
| <p>3 PROCEDURAL SKILL
Demonstrate proper bag-mask ventilation.</p> | BEST FIT
Demonstration + Simulation / Guided Practice |

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Summary & Review: Instructional Platforms

- | | |
|--|--|
| <p>Lecture
Efficiently presents information</p> | <p>Oral Questioning
Stimulates reasoning through purposeful questions</p> |
| <p>Discussion
Promotes interaction and exchange of perspectives</p> | <p>Tutorial
Provides individualized instruction and feedback</p> |
| <p>Drill & Practice
Builds recall, accuracy, and procedural proficiency</p> | <p>Written Materials
Supports independent and self-directed learning</p> |
| <p>Simulations & Games
Applies knowledge and skills in realistic situations</p> | |

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Instructional Aids

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Improving Learning & Retention

Avoid the “10%–20%–30%–50%–70%” retention percentages

These commonly repeated numbers are not supported as universal measures of how much people remember.

MULTIPLE REPRESENTATIONS

Combine spoken explanation with relevant visuals, demonstrations, examples, or written material.

ACTIVE PARTICIPATION

Have learners answer questions, explain concepts, discuss cases, practice skills, and make decisions.

RETRIEVAL & PRACTICE

Require learners to recall and apply information rather than simply hear or reread it.

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Visual Aids: Keep Slides Easy to Read

Avoid Crowded Lines

Prioritize clarity over exact word counts.

Limit On-Screen Content

Show only what learners need.

Avoid ALL CAPS

Use sentence case for easier scanning.

Left-Align Body Text

Reserve centering for titles.

Use Simple, Readable Fonts

Skip decorative or overly stylized fonts.

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Visual Aids: Avoid Distractions

Use Comfortable, High-Contrast Colors

Choose colors that make text easy to read.

Use Color Purposefully

Use a consistent palette to organize or emphasize information.

Avoid Distracting Text Effects

Skip spinning, bouncing, or excessive text animation.

Proofread Everything

Errors distract learners and can undermine credibility.

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Visual Aids: Design for Clarity

Choose Readable Fonts

Use simple, familiar typefaces that remain easy to recognize at a glance.

Design for the Back Row

Use text and graphics large enough to be read easily from the farthest seat in the room.

Use Color with a Purpose

Use color consistently to highlight important information, differentiate categories, or show relationships.

Consider Visual Comfort

Maintain good contrast and avoid combinations, backgrounds, or effects that create eye strain.

Add Detail Progressively

Start with the essential information, then reveal additional layers as they become relevant to the explanation.

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Visual Aids: Direct the Learner's Attention

Cue & highlight important details

Arrows: Point to specific features or relationships

Color: Emphasize information consistently.

Boldface: Highlight key words.

Bullets: Organize related points.

Size: Make important elements more prominent.

Underline: Use it sparingly; it can resemble a link.

Add detail progressively.

1 Start with the essential concept

2 Add the next relevant detail

3 Build toward the complete picture

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Using Instructional Aids Effectively

Integrate Aids into the Lesson Plan

Choose aids that support the learning objectives and class format.

Use Each Aid with a Purpose

Use aids to clarify, demonstrate, emphasize, or reinforce.

Plan When & How It Will Be Used

Decide when to introduce each aid and how learners will interact with it.

Preview All Materials

Check materials for accuracy and correct sequence.

Check Technology Before Class

Test audio, video, internet, and other needed equipment.

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Boards & Writing Surfaces

Keep It Legible

Use clear handwriting, large text, and organized drawings.

Prepare Complex Displays

Create detailed diagrams before class to avoid delays.

Hide Until Needed

Cover or conceal prepared material until you're ready to discuss it.

Make Reusable Content Durable

Save frequently used displays as slides, handouts, or posters.

Write First, Then Talk

Finish writing or drawing, then face learners before speaking.

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Presentation Software

Easy to Create & Revise

Update slides as content or teaching needs change.

Flexible & Reusable

Save, reorganize, and reuse presentations.

Multimedia Capabilities

Combine text, images, audio, and video.

Internet & Linked Resources

Link to webpages, references, and demonstrations.

Learner Materials

Adapt key content into handouts or downloadable resources.

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Multimedia, Models & Audio

DIGITAL MULTIMEDIA

Replaces most CD/DVD use

Use videos, interactive tutorials, and online modules.

PHYSICAL MODELS

Make 3D concepts easier to understand

Useful for anatomy, equipment, and spatial relationships. Keep models out of view until needed so they do not become a distraction.

AUDIO

Use when sound is essential

Teach breath sounds, heart sounds, alarms, and communication. Pair with explanations or visuals.

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Handouts & Learner Resources

Support the Instruction

Help learners follow key concepts, diagrams, and steps.

Provide Structure for Notes

Include essential information and space for learners' notes.

Create a Resource for Review

Provide a useful reference for study or clinical practice.

Supplement Other Resources

Reinforce key content without reproducing an entire textbook.

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Instructional Aids

Design for clarity

- Keep slides simple and readable
- Use clear contrast and purposeful color
- Highlight key details; build complexity gradually
- Treat rules as guidelines

Use aids effectively

- Connect aids to the lesson plan
- Plan when and how to use them
- Preview materials and test technology
- Reveal aids when needed, and allow time to think

Select the medium

- Boards & writing surfaces
- Presentation software
- Digital multimedia
- Physical models
- Audio
- Handouts & learner resources

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Lesson Planning

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Developing a Lesson: Start with the Outcomes

1

Specify Learning Objectives

Clearly define the observable and measurable knowledge, skills, or behaviors learners should demonstrate.

2

Sequence the Objectives

Arrange objectives in a logical progression—from prerequisite and foundational skills to more complex performance.

3

Develop the Criterion Assessment

Determine how learners will demonstrate that each objective has been achieved and what level of performance is acceptable.

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From Objectives to Delivery

1

Define Learning Objectives

Specify what learners should be able to do.

2

Sequence the Objectives

Order learning from foundational skills to complex tasks.

3

Plan the Assessment

Define how to measure learning and set success criteria.

4

Analyze the Teaching Context

Assess learners, setting, time, resources, and constraints.

5

Select the Teaching Platform

Choose a teaching method that supports the objectives.

6

Select Strategies & Aids

Plan activities and resources that support learning.

7

Outline the Lesson

Organize content, timing, activities, and assessments.

8

Rehearse the Presentation

Practice the lesson and check timing and technology.

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Five Stages of a Lesson Plan

I

Preparation — Prepare the learner

Gain attention, activate prior knowledge, establish relevance, and communicate the objectives.

II

Presentation / Demonstration — Teach or show

Present new information, explain concepts, model procedures, and use appropriate instructional aids.

III

Application — Learner practices

Give learners opportunities to apply knowledge, solve problems, discuss cases, or perform skills.

IV

Verification — Confirm learning

Assess whether learners can demonstrate the knowledge, skill, or behavior specified in the objectives.

V

Summary & Review — Reinforce learning

Review key concepts, clarify remaining questions, and connect the lesson back to the objectives.

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Lesson Plan Stage I: Prepare the Learner

Gain Attention

Create a reason to focus—use a question, clinical scenario, surprising fact, image, demonstration, or problem.

Establish Relevance & Motivation

Explain why the content matters and how it connects to the learner's role, goals, or clinical practice.

Activate Prior Knowledge

Prompt learners to recall related knowledge or experience so new information has something to connect to.

State the Learning Objectives

Tell learners what they should be able to do by the end of the lesson and what level of performance is expected.

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Lesson Plan Stage II: Present & Demonstrate the Procedure

1

Demonstrate at Normal Speed

Perform the complete procedure once, without interruption, so learners can see what competent performance looks like.

2

Repeat Slowly with Explanation

Demonstrate again step by step, explaining what you are doing and why each action is performed.

3

Emphasize Critical Steps

Call attention to safety issues, decision points, common errors, and steps that must be performed correctly.

4

Use a Procedure Checklist

Have learners follow the sequence with a checklist so they can connect each observed action to the expected performance.

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Lesson Plan Stage II: Presenting Information

Maintain Attention

Vary pace, questions, examples, and activities to sustain engagement.

Present Distinct Stimuli

Use meaningful changes in visuals, examples, or emphasis to refocus attention.

Use Multiple Representations

Pair explanations with relevant visuals or demonstrations.

Guide the Learning

Organize content logically and connect new ideas to prior knowledge.

Encourage Active Processing

Ask learners to predict, explain, compare, or apply information.

Monitor Comprehension

Check understanding and adjust instruction as needed.

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Lesson Plan Stage III: Application

REHEARSE INFORMATION

Strengthen recall & understanding

- Drill — repeated retrieval or practice of key information
- Oral questioning — recall, explain, interpret, and apply concepts
- Cases or problems — use information in a meaningful context

GUIDED PROCEDURE PRACTICE

Develop skill with feedback

- Learner performs the procedure
- Instructor coaches and cues as needed
- Use a checklist or performance criteria
- Correct errors before they become habits

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Lesson Plan Stage IV: Verification

VERIFY INFORMATION

Criterion-Based Assessment

- Assess the knowledge or reasoning specified in the objective
- Use written exams, oral questions, cases, or other appropriate measures
- Apply the predetermined criteria for successful performance

VERIFY PROCEDURAL SKILL

Criterion-Based Performance Evaluation

- Observe the learner performing the procedure
- Use a checklist, rubric, or defined performance criteria
- Evaluate critical steps, accuracy, safety, and independence

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Lesson Plan Stage V: Summary & Review

Summarize the Material — “So What?”

Bring the lesson together and explain why the major concepts or skills matter in real-world practice.

Review the Key Points

Revisit the most important takeaways and connect them directly to the learning objectives.

Clarify Remaining Questions

Address misunderstandings or unresolved questions before the lesson ends.

Encourage Further Learning

Suggest additional reading, practice, resources, or clinical experiences that extend learning beyond the lesson.

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Evaluation of Learning

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Evaluation: Measuring Quality & Outcomes

PURPOSE

Use evidence to make decisions about both the quality of instruction and the achievement of learners.

INSTRUCTIONAL PROGRAMS

Evaluate the Process

- Was the content appropriate and organized?
- Were the instructional methods effective?
- What should be continued, revised, or improved?

LEARNER ACHIEVEMENT

Evaluate the Outcomes

- Did learners achieve the objectives?
- Can they demonstrate the required knowledge or skills?
- Did performance meet the established criteria?

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Evaluation: Formative vs. Summative

FORMATIVE EVALUATION

During Learning or
Development

Purpose: Improve

Identify strengths and gaps.

Give feedback and adjust
instruction.

Examples: practice feedback,
draft reviews.

SUMMATIVE EVALUATION

At the End

Purpose: Decide

Determine whether objectives
were met.

Inform final performance
decisions.

Examples: final exams,
competency assessments.

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Evaluating Cognitive Skills

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Evaluating Cognitive Skills: Recall vs. Recognition

RECALL

Generate the Answer

Learner retrieves information from memory without being shown the answer.

- Requires greater retrieval effort
- Examples: short answer, fill-in-the-blank, oral response

RECOGNITION

Identify the Answer

Learner identifies the correct answer from choices that are provided.

- Generally easier than recall
- Examples: multiple-choice, matching, true/false

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Evaluation Methods for Cognitive Skills

Conversation — Informal assessment

Discuss ideas to assess understanding and identify misconceptions.

Oral Questioning — Real-time assessment

Ask learners to recall, explain, interpret, analyze, or apply information.

Learner Presentations — Knowledge + communication

Assess understanding, organization, and communication.

Criterion-Referenced Tests — Performance against a standard

Measure performance against defined criteria rather than other learners.

Examples: NBRC credentialing examinations such as the TMC and CSE use established performance standards.

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Written Examinations

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Written Examinations: Common Item Types

Essay

Can assess organization and higher-level thinking, but is time-consuming and potentially subjective to score.

Short Answer

Learner generates a brief response from memory without being shown the answer.

Completion / Fill-in

Learner supplies a missing word, phrase, value, or concept.

Matching

Efficient for testing relationships among related terms, concepts, or definitions.

True / False

Easy to score, but each item gives the learner a 50% chance of guessing correctly.

Multiple Choice

Versatile and objectively scored; well-written items can assess recall, application, and clinical reasoning.

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Multiple-Choice Questions

STRENGTHS

Broad Content Coverage

Can sample many topics efficiently within one examination.

Multiple Cognitive Levels

Test recall, application, and analysis.

Objective Scoring

Each item has a predetermined best answer, reducing scorer subjectivity.

Efficient Scoring

Easy to score consistently and assign points, especially with electronic testing.

PRIMARY CHALLENGE

Writing good questions

- Each item needs:
- A clear question
- One best answer
- Plausible incorrect options
- No unintended clues or ambiguity

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Constructing an Effective Test

1

Identify Objectives

Determine which learning objectives the examination should assess.

2

Determine Cognitive Level

Match each item to the level of thinking required by the objective.

3

Select Item Type

Choose a format: multiple choice, short answer, matching, or essay.

4

Write the Items

Write enough questions to cover each objective and key content.

5

Establish Scoring

Set point values, passing criteria, and scoring rules.

6

Develop the Answer Key

Prepare correct answers and any rubrics before testing..

7

Pilot & Review

Test items for clarity, difficulty, and unintended clues.

8

Revise as Needed

Improve or remove weak items using feedback and results.

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Evaluating Procedure Skills

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Evaluating Procedure Skills: Oral Questioning

Confirm Readiness for Hands-On Evaluation

Determine whether the learner can explain the procedure, indications, precautions, and critical steps before performing it.

Rehearse the Procedure Mentally

Have the learner recall and verbalize the sequence of steps—providing mental practice before physical performance.

Verify Theoretical Knowledge

Assess whether the learner understands not only what to do, but why the steps are performed and how to respond to problems.

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Evaluating Procedure Skills: Functions of Checklists

SUPPORT TEACHING & LEARNING

Guide Lesson Planning

Organize teaching around required steps.

Guide Learner Practice

Clarify what learners must demonstrate.

Define Evaluation Criteria

Set observable performance standards.

SUPPORT FAIR & CONSISTENT EVALUATION

Reduce Subjectivity

Use the same criteria for every learner.

Improve Inter-Rater Reliability

Help evaluators score consistently.

Document Performance

Record results and areas for improvement.

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Evaluating Procedure Skills: Performance Evaluation

Begin with Task Analysis

Break the procedure into the steps and decisions required for competent performance.

Develop the Performance Evaluation Form (PEF)

Translate the task analysis into observable criteria that can be evaluated consistently.

Identify Critical Steps

Clearly identify steps essential to safety or successful completion of the procedure.

Evaluate Against Defined Criteria

Observe the learner performing the skill and determine whether each required criterion is met.

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Evaluating Procedures: From Practice to Competency

BEFORE SUMMATIVE EVALUATION

Practice with Feedback

Allow adequate practice.

Give timely corrective feedback.

Let learners correct errors and practice again.

DURING SUMMATIVE EVALUATION

Observe the Actual Performance

Assess each step against defined criteria.

Verify actions, not stated intentions.

Confirm correct completion of critical steps.

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Feedback: Poor vs. Effective

CLINICAL SCENARIO

During endotracheal suctioning, the learner applies suction while inserting the catheter.

POOR FEEDBACK

“You need to be more careful.”

- Vague
- Does not identify the error
- Does not explain the consequence
- Gives no clear corrective action

EFFECTIVE FEEDBACK

“You applied suction while advancing the catheter. Insert without suction, then apply suction as you withdraw.”

Specific behavior → Why it matters →
What to do differently

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When Should You Intervene?

CLINICAL SCENARIO

A student is providing bag-mask ventilation during a clinical rotation.

- 1 **COACH**
Mask seal isn't perfect, but chest rise is adequate and SpO₂ remains stable.

Allow the learner to recognize and correct the problem.

- 2 **PROMPT**
Ventilation is too rapid, but the patient remains stable.

Ask: "What's your ventilation rate?"

- 3 **INTERVENE**
No visible chest rise. SpO₂ is falling. Ineffective ventilation continues.

Take over — patient safety takes priority.

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Evaluating Professional Behaviors (Affect)

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Evaluating Professional Behavior

WHAT WE CANNOT DIRECTLY OBSERVE

Attitudes & Values

- Beliefs, feelings, and values are internal.
- We should not assume what a learner thinks or feels based solely on our impressions.

WHAT WE CAN EVALUATE

Observable Behavior

- Define the professional behaviors expected of the learner.
- Observe what the learner says and does in relevant situations.
- Evaluate behavior using clear, predetermined criteria.

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Professional Competence Requires More Than Knowledge & Skill

KNOWLEDGE

What do they know?

Clinical knowledge and reasoning

SKILL

What can they do?

Technical and procedural ability

PROFESSIONAL BEHAVIOR

How do they perform?

Communication, reliability, respect, accountability

Patient Relationships: Knowledge alone is insufficient. Respectful, effective communication builds trust and supports care.

Reliability: Clinical skills must be paired with consistent attendance, punctuality, and preparation.

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Criterion Professional Behaviors

EFFICIENCY

Uses time & resources wisely

Completes responsibilities with minimal unnecessary time, effort, or waste.

PRODUCTIVITY

Completes the expected workload

Accomplishes an appropriate quantity of work within the available time.

ACCURACY

Performs work correctly

Measures, adjusts, calculates, communicates, and documents accurately.

ATTENTIVENESS

Remains alert & responsive

Recognizes patient needs, changes in condition, alarms, requests, and other important cues.

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Criterion Professional Behaviors

DILIGENCE — Consistent effort & follow-through

Completes responsibilities thoroughly, follows through on assigned tasks, and requires appropriate rather than repeated prompting.

COMMUNICATION — Clear, accurate & goal-directed

Sends and receives information effectively, listens actively, confirms understanding, and communicates toward the intended clinical goal.

EMPATHY — Understanding expressed through behavior

Responds to patients and families with sensitivity, respect, and appropriate verbal, nonverbal, and physical interactions.

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Sources of Professional Behavior Evaluation Data

OBSERVATION & NATURAL CONVERSATION

Observe behavior during routine care.

Explore reasoning and communication.

See natural responses in context.

CLINICAL CONFERENCING & SIMULATION

Discuss or simulate clinical scenarios.

Ask what learners would do and why.

Practice and assess professional behavior.

LEARNER PRESENTATIONS & REFLECTION

Assess communication and organization.

Explore reactions and assumptions.

Identify ways to improve responses.

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Evaluation Instruments

ANECDOTAL REPORTS

Record factual observations of learner behavior over time.

CRITICAL INCIDENT REPORTS

Document outstanding performance or serious concerns about competence or professionalism.

BEHAVIOR RATING SCALES

Use defined criteria to guide improvement or assess final performance.

INSTRUCTOR DOCUMENTATION

Record promptly and objectively. Describe actions; avoid labels or assumptions.

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Summary & Review: Evaluation of Learning

FORMATIVE & SUMMATIVE

Why are we evaluating?

Formative evaluation guides improvement during learning. Summative evaluation assesses final achievement.

WRITTEN TESTS

How well does the learner know and use information?

Choose question formats that match the learning objective and cognitive level.

PROCEDURE EVALUATION

Can the learner perform the skill?

Use checklists or performance forms to observe skills and document competency.

BEHAVIOR EVALUATION

How does the learner perform professionally?

Use observable criteria, anecdotal or critical incident reports, and behavior rating scales.

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Clinical Instruction

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Preceptor Roles

CLINICAL EXPERT

Practitioner • Resource

Provides competent care and shares clinical expertise.

ASSESSOR

Evaluator

Evaluates performance, gives feedback, and documents progress.

EDUCATOR

Teacher • Facilitator

Explains, demonstrates, and coaches active learning.

PROFESSIONAL GUIDE

Role Model • Mentor

Models professionalism and supports learner growth.

TEAM CONNECTOR

Liaison • Coworker

Supports teamwork and connects classroom learning to practice.

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Topics for Clinical Instruction

PATIENT CARE

Assessment, treatments, procedures, and safe equipment use.

THE HEALTHCARE TEAM

Team roles, communication, handoffs, and reporting.

THE INSTITUTION

Policies, emergency procedures, documentation, and resource locations.

THE JOB

Prioritization, time management, workflow, and accountability.

PROFESSIONAL ADAPTATION

Managing stress, uncertainty, conflict, and changing priorities.

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Progression Toward Procedural Independence

- 1 **OBSERVE — Student observes**
Watch an instructor demonstrate correct performance.
- 2 **EXPLAIN — Student describes how**
Verbalize the sequence, rationale, precautions, and critical steps.
- 3 **PRACTICE — Perform with supervision**
Carry out the procedure with coaching and corrective feedback as needed.
- 4 **DEMONSTRATE — Criterion evaluation**
Perform the procedure while being evaluated against established competency criteria.
- 5 **INDEPENDENCE — Indirect / loose supervision**
Assume greater responsibility after competency is demonstrated, with appropriate oversight still available.

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Clinical Lesson Plan

- 1 **PREPARATION — Preclinical Conference**
Prepare the learner for the clinical experience: review objectives, assignments, patients, priorities, and expectations.
- 2 **PRESENTATION — Discuss Patients & Plan Care**
Review patient information, clinical problems, equipment, procedures, and the rationale for planned care.
- 3 **APPLICATION — Observe & Coach Performance**
Allow the learner to provide care while the instructor observes, questions, guides, and corrects skills as needed.
- 4 **VERIFICATION — Evaluate Performance**
Determine whether the learner can demonstrate required knowledge, procedural skills, and professional behaviors.
- 5 **SUMMARY & REVIEW — Postclinical Conference**
Debrief the experience, review key learning points, provide feedback, and identify goals for continued improvement.

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Common Preceptor Errors

Neglecting Clinical Reasoning

Focuses on tasks without building assessment and decision-making skills.

Not Using Evaluation Tools

Relies on memory or impressions instead of defined criteria.

Evaluating Procedures Too Soon

Tests competency before adequate instruction, practice, and feedback.

Inflated or “Easy” Grading

Gives ratings that overstate performance or avoids corrective feedback.

Poor Professional Role Modeling

Models behavior that conflicts with learner expectations.

Teaching Unsafe or Unapproved Shortcuts

Uses “this is how we do it in the real world” to bypass established standards, policies, or safe practice.

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Putting It All Together: The Preceptor in Action

SCENARIO

COPD on NIV • persistent tachypnea • repeat ABG shows worsening respiratory acidosis

1 OBJECTIVE

Evaluate response to NIV and recommend appropriate action.

2 QUESTION

“What findings tell you whether NIV is working?”

3 SUPERVISED PERFORMANCE

Assess patient, interface/settings, respiratory status, and ABG.

4 FEEDBACK

Identify what was done well, what was missed, and why it matters.

5 EVALUATE

Can the learner recognize NIV failure and develop a safe plan?

6 INCREASE INDEPENDENCE

Observe → Coach →
Evaluate → Step Back

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Summary & Review: Clinical Instruction

CLINICAL INSTRUCTION

Combine knowledge, skills, reasoning, communication, and professionalism in patient care.

PRECEPTOR ROLES

Teach, model, and evaluate while supporting independence and patient safety.

CLINICAL LESSON PLAN

Prepare →
Apply →
Evaluate →
Debrief

TOPICS FOR INSTRUCTION

Patient care, equipment, communication, policies, workflow, teamwork, and coping.

COMMON ERRORS

Avoid inadequate practice, inaccurate grading, poor role modeling, and unsafe shortcuts.

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Final Thought

Great clinicians know what to do.

**Great clinical instructors help
others learn how to do it.**

**We're helping develop the
next generation of respiratory therapists.**

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The End

Instructional Skills

Effective instruction is not simply
delivering information—
it is helping learners develop the
knowledge, skills, and professional
behaviors needed for competent practice.

Thank You

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