

INSTRUCTIONAL SKILLS FOR CLINICAL PRACTICE

Learner Handout

Arthur Jones, EdD, RRT
Keith Varnes, RRT, RRT-ACCS, RRT-NPS, AE-C

AARC Approved • 2 CRCE Credit Hours

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

1. Foundations of Effective Clinical Education

Primary learner objective: Develop effective instruction for students, colleagues, patients, and families.

- Respiratory therapists teach patients and families about disease, procedures, medications, equipment, self-monitoring, and safe care after discharge.
- RTs teach healthcare colleagues about respiratory procedures, equipment, policies, clinical application, and how to evaluate response to therapy.
- Clinical education of RT students includes the clinical environment, respiratory care practice, hands-on skills, and professional conduct.

KEY POINT: Good teaching is measured by what the learner can understand, apply, and demonstrate—not simply by what the instructor presents.

Goal Orientation

Question	Purpose	Clinical example
Where are we now?	Assess the starting point.	What does the learner already know about ABG sampling?
Where are we going?	Define the desired outcome.	Safely obtain an arterial sample.
How do we know?	Verify learning.	Observe performance against competency criteria.

An instructional goal describes the broad destination. A learning objective turns that goal into a specific, measurable outcome.

Competency-Based Education

- Cognitive (KNOW): information, understanding, interpretation, reasoning, and decision-making.
- Psychomotor (DO): physical and procedural performance.
- Affective (BE): communication, empathy, accountability, teamwork, respect, and professional behavior.
- Progress is based on demonstrated competency—not simply time spent in training.

2. Learning Objectives

Learning objectives provide the road map for what to teach, how to teach it, and how to evaluate learning.

Component	Question	Example
Behavior	What should the learner DO?	Analyze ventilator waveforms.
Condition	Under what circumstances?	Given a mechanically ventilated patient scenario.
Criterion	How well must the learner perform?	Correctly identify the cause in 4 of 5 cases.

- Use observable action verbs such as identify, explain, demonstrate, analyze, evaluate, select, or formulate.
- Avoid vague verbs such as know, understand, appreciate, and learn when they do not specify an observable behavior.
- Match the verb to the level of learning expected.
- Break complex terminal objectives into smaller enabling objectives when needed.

Revised Bloom's Taxonomy: Cognitive Domain

Level	Purpose	Useful verbs
Remember	Recall facts and basic concepts	Define, list, identify
Understand	Explain ideas or concepts	Describe, explain, summarize
Apply	Use knowledge in a situation	Calculate, demonstrate, use
Analyze	Find relationships and interpret information	Compare, differentiate, interpret
Evaluate	Make judgments using criteria/evidence	Assess, critique, justify
Create	Develop a new solution or plan	Design, develop, formulate

KEY POINT: The question changes the cognitive demand. The same COPD/NIV patient can be used to move from recall to clinical judgment and creation of a treatment plan.

Other Learning Domains

- Affective (Krathwohl): Receiving → Responding → Valuing → Organization → Characterization.
- Psychomotor (Simpson): Perception → Set → Guided Response → Mechanism → Complex Overt Response → Adaptation → Origination.
- Build foundational knowledge and skills before expecting complex clinical judgment or adaptation.

3. Instructional Platforms & Teaching Strategies

The instructional platform is HOW instruction is delivered. An instructional aid is WHAT supports the instruction.

Platform / Strategy	Best use
Lecture	Efficient delivery of foundational information; should not replace practice or demonstration.
Discussion	Higher-level thinking, values, communication, and problem-solving.
Tutorial	Individualized instruction, practice, and immediate feedback.
Drill & Practice	Repetition to strengthen recall, accuracy, confidence, and procedural proficiency.
Socratic Method	Purposeful questions that reveal and develop clinical reasoning.
Simulation & Games	Practice decisions and skills in realistic situations without patient risk.
Printed / Self-directed Media	Independent study and reinforcement of other instruction.

Effective Oral Questioning

- Match questions to the cognitive level required by the objective.
- Ask one question at a time and prefer open-ended questions that require explanation.
- Be clear and focused; avoid unnecessary ambiguity.
- Allow wait time before answering your own question.
- Use cues and probes to develop reasoning rather than immediately giving the answer.
- Provide corrective feedback after listening to the learner's reasoning.

KEY POINT: Ask → Wait → Listen → Probe → Give Feedback

Bedside Socratic Questioning Example

COPD on mechanical ventilation; PaCO₂ rises from 55 to 72 and pH falls from 7.31 to 7.22 while oxygenation is unchanged.

- What changed?
- What does that tell you physiologically?
- What determines PaCO₂?
- What could cause the change?
- What do you assess first? Patient → airway → circuit → ventilator.
- What would you change—and why?

4. Instructional Aids

- Design for clarity: keep slides simple and readable; use comfortable contrast and purposeful emphasis.
- Cue important details and add complexity progressively instead of presenting everything at once.
- Integrate aids into the lesson plan and connect each aid to a learning objective.
- Preview materials and test technology before class.
- Reveal aids when needed, direct attention, and allow learners time to process what they see or hear.
- Select the medium that best represents what learners need to see, hear, examine, or manipulate.

Aid	Practical use
Presentation software	Text, images, diagrams, audio, animation, video, and links; the slide supports the lesson—it is not the lesson.
Digital multimedia	Video, audio, interactive tutorials, websites, and online modules.
Physical models	Three-dimensional anatomy, equipment, and spatial relationships.
Audio	Breath sounds, heart sounds, alarms, communication examples, narration.
Handouts	Structure, key concepts, diagrams, steps, note-taking space, and post-course review.

KEY POINT: A good handout should organize and reinforce important content—not reproduce every slide or every word of the presentation.

5. Lesson Planning

Plan backward from what learners should be able to do at the end of instruction.

Step	Action
1	Define learning objectives.
2	Sequence objectives from prerequisite/foundational skills to more complex performance.
3	Plan the assessment and criteria for success.
4	Analyze the learners, setting, time, resources, technology, and constraints.
5	Select the instructional platform.
6	Select strategies and aids: questions, activities, practice, visuals, models, handouts.
7	Outline content, timing, transitions, activities, and assessment.
8	Rehearse the presentation; check timing, clarity, transitions, and technology.

KEY POINT: Plan backward from the objective—then rehearse forward through the lesson.

Five Stages of a Lesson Plan

Stage	Purpose
I. Preparation	Gain attention, establish relevance, activate prior knowledge, state objectives.
II. Presentation / Demonstration	Teach information, explain concepts, model procedures, use aids.
III. Application	Learner applies knowledge, solves problems, discusses cases, or performs skills.
IV. Verification	Confirm that the learner can meet the performance specified in the objective.
V. Summary & Review	Reinforce key points, clarify questions, reconnect to objectives, encourage further learning.

KEY POINT: Prepare → Teach → Practice → Verify → Reinforce

6. Evaluation of Learning

Evaluation asks two questions: How well did we teach? How well did the learner learn?

Type	Purpose
Formative	Guides improvement during learning. Identify problems, provide feedback, allow correction and additional practice.

Summative	Supports final decisions about achievement or competency after instruction/practice.
-----------	--

- The evaluation method should match the learning objective and the level of performance expected.
- Cognitive learning may be evaluated with written examinations, oral questioning, cases, presentations, or other appropriate methods.
- Procedural skill requires observation of actual performance using defined criteria.
- Professional behavior should be evaluated with observable criteria and appropriate documentation over time.

Written Examination Item Types

Item type	Consideration
Essay	Can assess organization and higher-level thinking; time-consuming and potentially subjective.
Short answer / completion	Requires learner-generated responses rather than recognition.
Matching	Efficient for relationships among related concepts.
True / False	Easy to score but gives a 50% chance of guessing correctly.
Multiple choice	Versatile and objectively scored; can assess recall through clinical reasoning when well written.

KEY POINT: Choose the item type based on what the objective requires—not simply what is easiest to grade.

7. Evaluating Procedures & Providing Feedback

- Begin procedural evaluation with task analysis: break the procedure into the steps and decisions required for competent performance.
- Translate the task analysis into observable criteria on a checklist or performance evaluation form (PEF).
- Identify critical steps essential to safety or successful completion.
- Give learners adequate guided practice and corrective feedback before summative competency evaluation.
- During summative evaluation, observe what the learner actually does—not what the learner says they intended to do.

KEY POINT: Practice is where we teach, coach, and correct. Summative evaluation is where the learner demonstrates competency.

Feedback: Poor vs. Effective

Poor feedback	Effective feedback
"You need to be more careful."	"You applied suction while advancing the catheter. Insert without suction, then apply suction as you withdraw."
Vague; does not identify the error.	Identifies the specific behavior.
Does not explain the consequence.	Explains why the behavior matters when appropriate.
No clear corrective action.	Provides a clear path to improvement.

KEY POINT: Good feedback answers: What happened? Why does it matter? What should change next time? Correct the performance—not the person.

8. Clinical Instruction & the Preceptor

Clinical instruction integrates knowledge, procedural skills, clinical reasoning, communication, and professional behavior while maintaining patient safety.

Preceptor role	Function
Clinical Expert	Practitioner and resource for safe, competent patient care.
Educator	Teacher and facilitator who explains, demonstrates, questions,

	coaches, and creates learning opportunities.
Assessor	Evaluates performance, provides feedback, documents progress, and determines whether criteria are met.
Professional Guide	Role model and mentor for communication, accountability, confidence, and professional growth.
Team Connector	Helps the learner function within the healthcare team and connect classroom learning with practice.

Topics for Clinical Instruction

- Patient care and equipment: assessment, treatments, procedures, troubleshooting, and safe application.
- Healthcare team: roles, communication, handoffs, reporting, and interdisciplinary relationships.
- Institution: policies, procedures, documentation, emergency processes, resources, and geography.
- The job: assignments, prioritization, time management, workflow, accountability, and organization.
- Professional adaptation: stress, uncertainty, difficult interactions, changing priorities, and emotional demands.

9. Progression Toward Procedural Independence

Stage	Learner responsibility
Observe	Watch correct performance demonstrated by the instructor.
Explain	Describe the sequence, rationale, precautions, and critical steps.
Practice	Perform with supervision, coaching, and corrective feedback.
Demonstrate	Perform while being evaluated against established competency criteria.
Increasing Independence	Assume greater responsibility after competency is demonstrated, with appropriate oversight available.

KEY POINT: I show you → You tell me how → You do it with me → You demonstrate competency → I begin to step back.

When Should the Instructor Intervene?

Response	Example
Coach	Mask seal is imperfect, but chest rise is adequate and SpO ₂ is stable. Allow the learner to recognize and correct the problem.
Prompt	Ventilation is too rapid, but the patient remains stable. Ask a focused question such as, “What’s your ventilation rate?”
Intervene	No visible chest rise, SpO ₂ is falling, and ineffective ventilation continues. Take over—patient safety takes priority.

KEY POINT: Allow mistakes that promote learning. Stop mistakes that threaten the patient.

10. Clinical Lesson Plan

Stage	Clinical application
Preparation	Preclinical conference: review objectives, assignments, patients, priorities, and expectations.
Presentation	Discuss patients, clinical problems, equipment, procedures, and rationale for planned care.
Application	Learner provides care while the instructor observes, questions, coaches, and corrects as needed.
Verification	Evaluate required knowledge, procedural skills, clinical reasoning, and professional behavior.
Summary & Review	Postclinical debrief: review learning, feedback, and goals for continued improvement.

KEY POINT: Prepare → Discuss & Plan → Practice & Coach → Evaluate → Debrief

Common Preceptor Errors

- Neglecting clinical reasoning and focusing only on task completion.
- Evaluating from memory or general impressions instead of established tools.
- Evaluating competency before adequate instruction, practice, and corrective feedback.
- Inflated or “easy” grading that does not accurately reflect performance.
- Poor professional role modeling.
- Teaching unsafe or unapproved shortcuts instead of established standards.

KEY POINT: Teach the standard. Evaluate the standard. Model the standard.

11. Capstone: The Preceptor in Action

Scenario: COPD on NIV with persistent tachypnea and a repeat ABG showing worsening respiratory acidosis.

Step	Preceptor action
Objective	Learner will evaluate response to NIV and recommend appropriate action.
Question	“What findings tell you whether NIV is working?”
Supervised Performance	Learner assesses the patient, interface/settings, respiratory status, and ABG.
Feedback	Identify what was done well, what was missed, and why it matters.
Evaluate	Can the learner recognize NIV failure and develop a safe plan?
Increase Independence	Observe → Coach → Evaluate → Step Back.

KEY POINT: Independence is progressively earned through demonstrated competency—not granted simply because enough time has passed.

Course Takeaways

- Start with the learner and a clear, measurable objective.
- Match the teaching method and instructional aid to the objective.
- Move learners from foundational knowledge toward application, reasoning, and independent performance.
- Give learners opportunities to practice before final evaluation.
- Use specific, behavior-focused feedback to improve performance.
- Evaluate the same knowledge, skill, or professional behavior that the objective requires.
- Increase independence as competency develops while keeping patient safety first.
- Great clinical instruction develops clinicians who can think, perform, communicate, and provide safe patient care.

Notes
