

Clinical Teaching, Assessment and Feedback

Material adapted from "The Preceptor" Vol 1; No 4 Spring 2013

Introduction

In this issue, we describe and explain an important educational tool for enhancing the clinical teaching environment. Diagnosing the learner (third or fourth year medical student) can facilitate instruction, mastery of competencies, and success of the future practitioner. Clinical teachers are key to this process and provide the medical student with the opportunity to develop a wide range of knowledge and skills through experiences in the practice setting and in patient care. Clinical teachers who incorporate the identification of student learning needs early in the rotation and continuously throughout the rotation create a positive learning climate, help students make connections between knowledge and specific clinical encounters and help to adjust teaching to promote successful learning. Benefits of diagnostic teaching for the preceptor include, reducing repetition in instruction, engaging the interest of the learner, and allowing more instructional time in an already busy practice setting. There are three main parts to the newsletter which will provide the reader with tips and tools to prepare and monitor learning in their clinical teaching setting: 1) Diagnostic Teaching, 2) Why Adult Learning Principles are Important and, 3) Diagnosing the Learner in Clinical Teaching. References, tips for searching the literature, and key points are provided at the end for additional resources on the topic.

Diagnostic Teaching

Diagnostic teaching is the process of diagnosing student abilities and needs and prescribing learning objectives and activities based on the identified needs. A learning need is the gap between where the student is now and where he/she should be in regard to a particular set of competencies. Through diagnostic teaching, the teacher monitors the understanding and performance of the learner before instruction, during instruction, and after instruction. Diagnostic teaching can inform teachers of the effectiveness of their lessons with individuals, small groups of learners, or whole classes, depending on the instruments used. Within a diagnostic teaching perspective, assessment and instruction interact as a continuous process, with assessment providing two-way feedback between the teacher and the learner on the efficacy of prior instruction, and with new instruction building on the learning that students demonstrate.

Initial and Diagnostic Assessment

Initial and diagnostic assessments establish the process of getting to know a learner and building a relationship with them. Initial assessment happens at the time of a learner's transition into a new learning environment. It is a holistic process, during which the teacher starts to build up a picture of a learner's achievements, skills, interests, previous learning experiences and goals, and the learning needs associated with those goals. Diagnostic assessment helps to identify specific learning strengths and needs. It determines learning targets and appropriate teaching and learning strategies to achieve them. This is important because learners have varying degrees of knowledge and skill development. For example, a third-year medical student who has not mastered patient history-taking skills may need further observation and/or instruction in doctor-patient communication skills training. Diagnostic assessment happens initially at the beginning of the program (i.e., rotation) and subsequently when the need arises. It is related to specific skills needed for tasks.

The two processes are closely linked: diagnostic assessment adds to the information gathered from initial assessment. Together they help you and the learner build a clear picture of the individual in order to:

- Personalize learning
- Develop an individual learning plan (i.e., learning contract)
- Begin the process of assessment for learning that will continue throughout the learner's rotation
- Make links to progression routes and prepare for the next steps

If the experience is positive, active, and involving, this will help create a climate in which a learner is able to negotiate and take responsibility for their learning. Clinical teachers can make the experience positive by:

- Involving and supporting the learner to encourage motivation and independence

- Building the learner's self-esteem and sense of self-worth
- Recognizing the learner's strengths and achievements, not just weaknesses
- Linking initial and diagnostic assessment to the learner's own aspirations, such as his/her career choices, specialty interests, or aspects of his/her everyday life
- Making the assessment relevant to the learner's specific context for learning

Initial and diagnostic assessment: methods and approaches

Once you have begun to get to know the learner and their learning preferences, you will be better able to select appropriate assessment methods. Possible methods include:

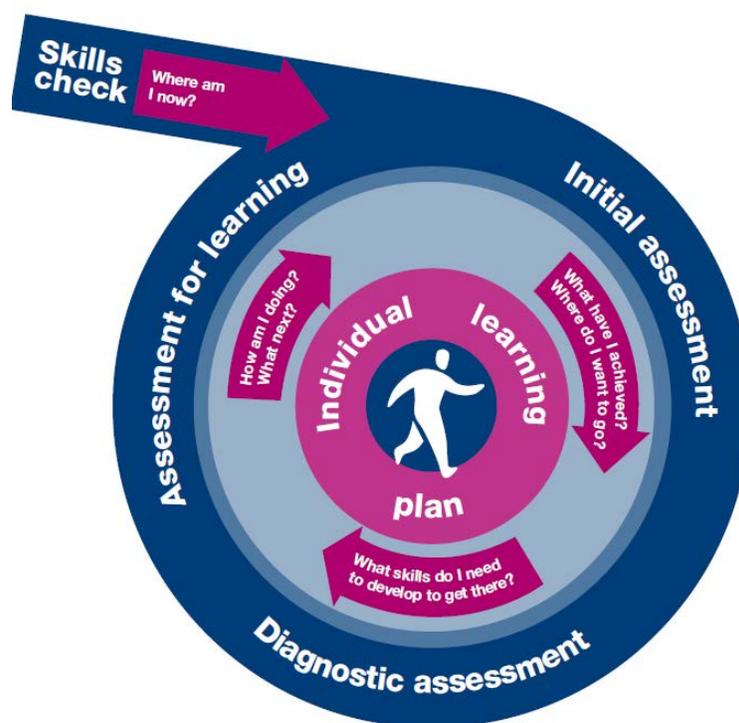
- Documents and records of achievements
- Self-assessment of learner's strengths and weaknesses
- Discussions and interviews (i.e., during rotation orientation) to get to know the learner and to provide feedback
- Assessment tools to assess learner's knowledge and skills and, preceptor teaching perspectives (i.e., Myers-Briggs Type Indicator, Teaching Perspectives Inventory: <http://teachingperspectives.com/drupal/>)
- Checklists and observation for insight into learner's strengths, how they work with others, how they think, and how confident they are.

Feedback from assessment

Giving timely, constructive feedback to individuals is crucial for effective initial and diagnostic assessment. Feedback is not a one-way process. Invite the learner to comment on what you do as well.

- Stress the positive.
- Seek the learner's views and value their contribution.
- Frame questions carefully and use prompts such as "Would you like to say more about that?"
- Pause and encourage learners to carefully consider and expand on what they have said.
- Be specific.
- Focus on things learners can change and avoid overloading them with too much feedback at once.
- Share ideas and explore solutions together.
- Agree what you will both do as a result.

Adapted from Quality Life Improvement Agency (2008). http://sflip.excellencegateway.org.uk/pdf/4.2sflguidance_3.pdf



Adult Learning Principles

- *Adults are internally motivated and self-directed.*
- *Adults bring life experiences and knowledge to learning experiences.*
- *Adults are goal oriented.*
- *Adults are relevancy oriented.*
- *Adults are practical.*
- *Adult learners like to be respected.*

Why Adult Learning Principles Are Important

Malcom Knowles, an American adult educator famous for adoption of the “models of assumptions” of andragogy (learning strategies for adults), recognized certain characteristics and process elements of adult learners (see box on Adult Learning Principles). He discovered through his work with adults that instructors needed to care about the actual interests of learners instead of focusing on what instructors believed were learner’s interests. The best experiences are guided interactions between the instructor and learner. Knowles’ ideas provide a practical instructional guide for all aspects of adult teaching, including the development of clinical teaching practices. His linear progression of working through a self-directed learning experience begins with a proactive step of taking an initiative in learning and diagnosing student’s learning needs. For example, a learning contract can be mutually developed between a preceptor and student for a clinical rotation after determining a gap in the student’s clinical knowledge and/or skills and specifying learning objectives, strategies, timelines, and assessment procedures. Adult learners can help in identifying and diagnosing their own needs for learning and can discover for themselves what they need most to learn.

Medical students, as adult learners, are also interested in bringing their past experiences and history into their role as learners in the clinical environment. Since students have varying backgrounds of experience, a one-size-fits-all approach is not effective in diagnosing where the learner is in his or her knowledge and skill level. Thus, it is important to consider the student’s previous experiences in the design of the clinical learning activity, ensuring the activity is relevant to those needs. Preceptors should begin clinical rotations or educational activities on the rotation by finding out what the student already knows. For example, a preceptor of a student on a radiology elective rotation should determine the level of understanding of interstitial lung diseases before showing radiologic examples of the disease. Thus, an understanding of adult learning principles is critical in establishing an effective learning environment and can help preceptors become better facilitators of learning, especially in consideration of diagnostic teaching and learner assessments. Preceptors should be facilitators of learning at every level of instruction.

Principles of Clinical Teaching

- *Learning is evolutionary.*
- *Participation, repetition, and reinforcement strengthen and enhance learning.*
- *Variety in learning activities increases interest and readiness to learn enhances retention.*
- *Immediate use of information and skills enhances retention.*

Diagnosing the Learner in Clinical Teaching

Clinical teaching requires a foundation of teacher-student relationships aligned with patient care and learning. Medical students learn best when the learning environment incorporates adult learning principles in instruction. This collaborative dynamic produces a positive learning climate in which students can be assessed through observations of knowledge, skills, and performance and skillful questioning, effective feedback, and active learning methods. Diagnosing the learner is a process whereby teachers identify deficiencies in students’ medical knowledge, skills, and performance in order to adjust teaching to promote successful learning and medical school graduates. Creating a positive learning climate, which is necessary but insufficient for learning, promotes learning and includes asking questions,

encouraging dialogue, engaging the learner (active learning), and providing meaningful feedback. Adult learning theory and the premise that mature students prefer instructional strategies such as shared and self-directed learning and skilled teachers who favor facilitating discussions and engaging in conversation over transmitting knowledge are key elements in clinical teaching. The ability of the clinical teacher to adjust teaching to the knowledge, skill, and performance level of the student plays an important role in medical education.

Diagnosing the learner is a crucial step...just as physicians must diagnose diseases before treating patients, teachers must diagnose learners before improving learner's clinical development and diagnostic reasoning abilities. (Beckman & Lee, 2009)

Assessment plays a key role as an initial step in this process and a diagnosing- the- learner approach in which teachers identify deficiencies in student's medical knowledge, skills, and performance can be utilized in the process. In any planning process, the first and one of the most important steps is to assess prior to implementation and evaluation. Whether the assessment is in educational knowledge, patient care, or personal lifestyle planning, design and implementation should include an assessment.

The diagnosis of clinical learning problems needs to include data about the setting and specific cases, the student's behavior, preceptor efforts and responses by the student, and the student's perceptions of the situation, all in light of course expectations. Data should include both the student's strengths and deficits. The preceptor should expect that the student a) is prepared each day, b) demonstrates history-taking skills appropriate for the situations at hand, c) demonstrates critical thinking in data collection, d) uses good physical examination skills to gather appropriate additional data, e) demonstrates health promotion knowledge and management skills, and f) uses knowledge of acute illness management to correctly make a diagnosis and identify treatment options at a level appropriate to the course and curriculum. For example, a hospitalist may have a medical student take a history and perform a physical examination on a patient when admitted to the hospital and then review the steps with the student to identify areas for improvement.

A student should also be able to maintain a reasonably organized approach to patient care and use of learning opportunities. Communication with staff, preceptor, and patients should be clear, organized, and appropriate. This also applies to written documentation and oral presentations of cases. Examples of problems the preceptor may see include an inability to take initiative and be responsible for parts of visits; an inability to transfer knowledge from one situation to another; problems with communication with preceptor, staff, and patients; and a failure to improve to the next learner development stage. The preceptor may need data to determine if the issue is related to a poor match between preceptor, setting, and student. For example, does the preceptor use a teaching style such as "sink or swim" that generates anxiety in this particular student sufficient to severely reduce performance? Or, is the setting too hectic, limited in space, unexpectedly busy, or have inappropriate patients? The preceptor will need to discuss whether adequate adaptations can be made for achieving a fit for the student and to collaborate with school administration on the best course of action.

The level of performance should be specified through course objectives and competencies, syllabi, and an understanding of the course placement in the curriculum (e.g., a last-term course rotation should have expectations approaching the new graduate's level of functioning). Preceptors may find it useful to document the behaviors identified by Ahem-Lehman (2000) as exemplars that students "get it" or behaviors identified as "red flags."

Diagnose the Learner

- **Assess learner level.**
- **Get a Commitment:**
 - **assess gap Knowledge/reasoning**
 - **PE assessment**
 - **Communication skill**

- *Probe: assess thought process*
 - *Key features*
 - *Problem representation*

Indicators that the student is learning in the clinical setting (adapted from Ahem-Lehman, 2000)

Behaviors that indicate the student is “getting it”

- *Presents thorough, focused history and physical.*
- *Consistently articulates sound decision making.*
- *Develops and implements a reasonable plan.*
- *Connects with patient interpersonally in caring manner.*
- *Is organized, independent, and time-efficient.*
- *Is self-confident but knows limits; asks for help.*
- *Has holistic view of care; includes health promotion and disease prevention.*
- *Provides concise charting and oral presentations.*

“Red Flag” behaviors

- *Is hesitant, anxious, defensive and/or not collegial.*
- *Has uneasy rapport with patient and misses cues.*
- *Presents less focused history and physical with excessive incomplete data.*
- *Performs physical examination poorly and/or inconsistently.*
- *Is unable to explain reasoning for diagnosis.*
- *Is unable to create plans independently.*
- *Misses health education and disease prevention opportunities in plan.*
- *Is unsure of tests to order.*
- *Is unable to provide clear charting and presentations.*

Problematic Performance Examples

- *Unorganized or incompetent history*
 - If the student is not competent, determine if she or he has an organizational framework for history; if the student lacks a useful framework, re-orient to presentation basics.
- *Difficulty applying concepts covered in educational program*
 - Give student responsibility to be prepared for one system and a specific well-client visit for each clinical experience; ask student to outline the priority concerns, assessments, and decision points in a concise, articulate, and clinical relevant presentation in less than 4 minutes.

The preceptor can provide helpful input to school administration from information provided by the student to determine if the student has competing life crises and whether the student can realistically put the necessary effort toward clinical learning to meet course objectives. It is important that the preceptor not confuse the preceptor role with that of counselor. Preceptors and school administration should provide clear expectations for acceptable student performance.

Preparation and planning of the clinical teaching setting, including the understanding of adult learning principles and communication, are key components to a successful experience for the preceptor and the medical student. The goal is to provide settings and experiences in which learning can occur with minimal disruption to the practice site and patients’ needs and expectations. Awareness of school administration’s

goals as well as the student's personal goals is essential. Clinical teaching should include an initial and diagnostic assessment process to diagnose student abilities and needs, prescribing and monitoring objectives, and providing continuous feedback for requisite learning activities. Assessment tools such as the Myers-Briggs Type Indicator and Teaching Perspectives Inventory can help examine a student's learning style as well as the preceptor's teaching views to enhance effective teaching and learning practices. Assessment strategies such as reflective practice can foster clinical knowledge and skill building in developing diagnostic competence. The diagnosis of clinical learning problems should include both the student's strengths and deficits to help identify areas for improvement. If "red flags" such as difficulty in clinical reasoning skills are identified, appropriate interventions can be implemented. Preceptorship lies at the heart of medical education and helps to link classroom knowledge to real patient management problems as the medical student develops strategies and practices. As physicians become even busier in their own clinical practice, being effective clinical teachers becomes more challenging; however, clinical teaching can prove to be just as rewarding and important in developing the future practitioner.

What Makes a Good Preceptor?

- ✓ The most important quality is willingness to teach.
- ✓ Encourages active rather than passive observation.
- ✓ Integrates clinical medicine with basic science.
- ✓ Concentrates on teaching of applied problem solving.
- ✓ Provides adequate opportunity for students to practice skills.
- ✓ Provides a good role model for interpersonal relationships with patients.
- ✓ Demonstrates a positive attitude toward teaching and learning.
- ✓ Role models good communication skills.
- ✓ Effectively prepares the clinical teaching setting

Key Points

- ✓ Diagnosing the learner can help students make connections between knowledge and specific clinical encounters and help to adjust teaching to promote successful learning.
- ✓ Diagnostic teaching is the process of diagnosing student abilities and needs and prescribing learning objectives and activities based on the identified needs and can help the teacher monitor the understanding and performance of the learner before, during, and after instruction.
- ✓ Benefits of diagnostic teaching for the preceptor include, reducing repetition in instruction, engaging the interest of the learner, and allowing more instructional time in an already busy practice setting.
- ✓ An initial and diagnostic assessment can help the preceptor and the learner build a clear picture of the individual in order to personalize learning, develop an individual learning plan (i.e., learning contract), and begin the process of assessment for learning that will continue throughout the learner's rotation.
- ✓ Adult learning principles recognize certain characteristics and process elements of adult learners such as, bringing past experiences and history into the role as learners in the clinical environment.
- ✓ Diagnosing the learner is a crucial step...just as physicians must diagnose diseases before treating patients, teachers must diagnose learners before improving learner's clinical development and diagnostic reasoning abilities (Beckman & Lee, 2009).
- ✓ The diagnosis of clinical learning problems should include both the student's strengths and deficits to help identify areas for improvement. If "red flags" such as difficulty in clinical reasoning skills are identified, appropriate interventions can be implemented.

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