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TUSM Graduate Student-As-Teacher Guide

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<u>Purpose</u>

The purpose of this guide is to support and inform graduate student's teaching roles and responsibility by providing an introduction to key educational concepts and corresponding practical tips. The guide is based on a summary of relevant educational literature and the designer's insights.

We hope that you enjoy this guide!

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Setting Expectations and Learning Agenda

Current educational theories view learning as an active, constructive, social and self-reflective process. A supportive learning environment builds trust between the teacher and the learner and involves collaborative efforts focused on the learner's personal and professional development needs. Following are suggestions for establishing a supportive learning environment focused on learner's needs and are applicable to individual and group teacher-learner encounters.

Set-up
- Clarifying learning objectives and expectations
- Overviewing learning tasks
- Establishing individual/group ground rules (manner of conduct, individual's/member's role, dynamic, peer critique, individual's/group confidentiality)
- Clarifying individual/ group schedule
- Explaining the context of the learning environment (activities/schedule)
- Introducing the learner into the context of the learning environment

Learner-centeredness
- Knowing the learner
- Engaging the learner in activities that promote lifelong learning and reinforce learner's responsibility for his/her own learning. For example:
  > Independent learning
  > Self-reflection and assessment
  > Identification of his/her own needs
  > Design of action plan for improvement
  > Follow-ups on action plan
- Allowing the learner to practice skills/share knowledge/disclose honestly without feeling threatened/belittled
- Welcoming learner's uncertainty/mistakes as opportunities to promote learning
- Engaging the learner in collaborative efforts
- Encouraging the learner to solicit others' opinions and feedback
- Promoting peer feedback

Teacher Role Model
- Showing enthusiasm for the profession and his/her own professional development
- Promoting dialogue and listening
- Taking the learner's perspective into account
- Encouraging learner's questions/opinions/thoughts
- Avoiding judgment when soliciting learner's opinions and reactions
- Providing relevant information and opportunities for choice
- Offering constructive feedback
- Sharing challenging personal and professional experience with the learner
- Sharing thought-processes/reflective practice out loud
- Admitting knowledge limitations and/or uncertainties
- Acting with professional conduct and good manners
- Maintaining good relationships with patient/colleagues/staff
- Performing teamwork
- Soliciting feedback
- Demonstrating commitment to lifelong learning

Effective Presentations

Creating effective presentations is an important aspect of teaching. Successful presentations include careful **preparation, organization, effective use of audiovisual aids** and a **dynamic delivery**.

Preparation

- Select **3-5 main points** as the most essential information to learn [learner's have a limited ability to attend and process mass quantities of information]
- Connect the content of the presentation with the needs and interest of the target audience
- Take into account variables such as the time frame, available facilities and the type of presentation required
- Prepare as far in advance as possible and practice the presentation
- Arrive early at the venue and check if the equipment is correctly set up
- **Relax!**

Organization

- **Introduction:**
  - Identify yourself with your credentials
  - Capture the audience's attention by using a concrete and interesting case, telling a story or using an analogy or examples
  - Offer a preview of the entire presentation, including objectives, questions to be answered or an outline of the key points
  - Connect new ideas presented to prior knowledge the audience may have about the topic
  - Establish an open atmosphere and the tone of the session early on by inviting questions in order to create an environment of active participation

- **Body:**
  - Eliminate all extraneous information and focus on a limited number of points [3-5 main points]
  - Arrange the main points either chronologically or logically using a problem-solution format
  - For each major point, add sub points, examples or supporting materials
  - Vary the method of delivery every 15 minutes by using questions, discussion points, demonstrations, video clips, illustrations, task assignments or self-tests [maximum audience attention levels are attained between 12 and 15 minutes]
  - Use a close-ended style when asking questions to a large group. *For example:* What specific entity is associated with this behavioral pattern?
  - Use open-ended questions when speaking to a small group. *For Example:* Can you formulate a problem list for this patient?
  - After asking a question to the audience, allow 3-5 seconds of thinking time before responding

- **Conclusion:**
  - Summarize points periodically throughout the talk and use as transitions
  - At the end, summarize key points and attempt to assess how much the audience has learned
  - If there will be a subsequent presentation or topic to be covered, create a bridge by previewing readings, assignments or key concepts to come

Effective Use of Audiovisual (AV) Aids

- **General:**
  - Aids must be simple, uncluttered and clear
  - Provide handouts if there are complex images
  - Talk to the audience [do not read the slides]

- **Whiteboard:**
  - Plan how you will use the whiteboard prior to the presentation
  - Use large and legible writing and multiple, visible colors to emphasize points or draw diagrams

- **Powerpoint:**
  - Chose a light background with dark print or vice-versa
  - Type in phrases rather than complete sentences
  - Use large type, size 36-40 for titles and 24-30 for major points, and a readable font such as a san serif (Arial or Helvetica)
  - Target 1 point per slide, with a maximum of 7 lines and 7 words per line
  - Use bold or colored text for emphasis rather than uppercase text
  - Plan to devote 2 minutes per slide
  - Use electronic pointers sparingly

Dynamic Delivery

- **Enthusiasm:**
  - Incorporate humor, exude energy and passion to motivate the learning

- **Movement:**
  - Use movement to increase interest and emphasize key points. Avoid stereotyped movements

- **Gestures:**
  - Reinforce interest in a topic and are particularly useful in the presence of larger audiences
  - Keep hands away from pockets, keys, microphone cords or other objects that may be distracting

- **Voice:**
  - Vary tone, time pauses, project voice to the back of the room, enunciate and repeat questions.

- **Eye Contact:**
  - Maintain eye contact to connect with the audience. Scan the room from side to side

Following the presentation

Once you have completed your presentation, always ask yourself
- What went well?
- What are areas in which I can improve?

Reference
Irby, D. (2004). Practical teaching: great presentations every time. *The Clinical Teacher* 1: 5-9.

Small Group & Case Based Teaching

Role of Small Group Leaders

- Not to lecture
- Listen
- Question
- Make visible and challenge underlying assumptions
- Encourage balanced discussion
- Allow silences
- Speak judiciously
- Pay attention to: learning climate, group process, and learner's concerns, interests and experiences.
- Allow learners to express uncertainty
- Admit knowledge limitations
- Encourage further group/self-study
- Promote active discussion by:
    - Preparing for the session
    - Previewing the content and process of discussion
    - Actively involve all learners while monitoring the group process
    - Cover content
    - Summarize the discussion

Learning and Teaching Strategies:

- Be cognizant of time (plan how you will use the session time in advance according to the material that needs to be covered and the learning points you want to convey)
- Encourage learners to review the case materials before the session
- Set some ground rules for participation/discussion, e.g. emphasize that the analysis of the case will be a group project, and that no one will be criticized for raising naïve questions or uncertainties (learners must understand that they will work collaboratively toward the goal of analyzing the case and that they are free to experiment with hypotheses)
- Start the discussion with questions that require learners to review and organize the case information, i.e. what are the relevant facts and how do they translate into major issues
- Once the basic information is reviewed, the discussion can move to the case analysis
- Use open-ended questions to ensure that all the angles of the case are considered
- Probe learners for their reasoning behind their arguments/hypotheses/conclusions to prevent them from jumping too quickly into a statement/conclusion without carefully examining the evidence or their assumptions
- Pose a different hypothetical scenario than the one the case presents to have learners explore other alternatives, e.g. learners" What if this patient were also suffering from…?"
- List identified key problems on the board along with a separate list of possible actions
- Listen carefully to responses
- Paraphrase learners' responses to check group understanding whenever necessary
- Give learners sufficient time to reflect on questions/issues that are raised
- Check with the group about their understanding of the case before moving on to the next
- Summarize the group discussion to wrap up or ask learners to pull together the key points of the discussion

- Assign research tasks to find the answers to questions that demand more information or explore a topic further
- Gather learners' questions throughout the discussion to develop a handout on FAQ for each particular case
- After the session, reflect on the group interaction and progress, and on learners' use of the case to consider whether the case can be developed further or whether more background information can or should be provided

Challenges of Leading a Case Discussion

- Learners who are uncomfortable with ambiguity and/or interested in having the section leader answer all the questions and offer the appropriate facts may be unwilling to participate (Suggested teaching strategy: prepare learners for what is expected of them and ensure participation of all learners)
- Some learners might fear suggesting inadequate solutions (Suggested teaching strategy: prepare learners for what is expected of them and communicate/reinforce ground rules mentioned above)
- The discussion can go off on tangents that are inappropriate (Suggested teaching strategy: keep the group discussion focused on issues relevant to the case)

References
Muller, J. & Irby, D. (2005). Practical teaching. How to lead effective group discussions. The Clinical Teacher 2(1): 10-15.

Stanford University Center for Teaching and Learning. Speaking of Teaching. Teaching with Case Studies. *Stanford University Newsletter on Teaching* 5(2): 1-3. Available at: http://ctl.stanford.edu/Newsletter/case_studies.pdf.

Teaching through Questioning

Questioning is an effective method to teach learners at all levels when it is not confrontational, and focuses on helping learners advance the development of their knowledge-based thinking process. Questioning can:

- Stimulate knowledge and thinking (recall, associate, apply)
- Guide problem solving
- Contextualize difficult concepts
- Unite team in cognitive processing
- Allow diagnosis of learner's understanding
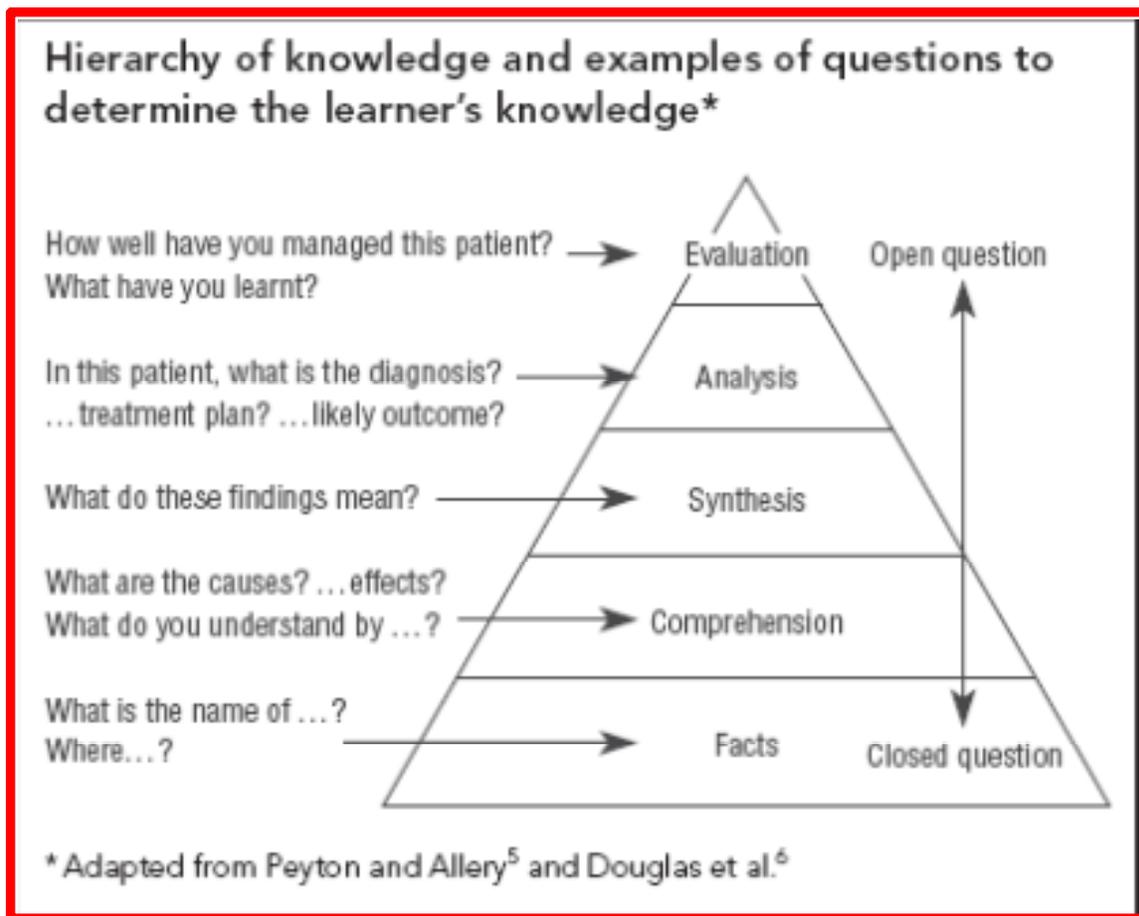
Questions can be classified into:

- Closed questions
"What characterizes -Fetoprotein?"

- Open-ended questions
"What are your impressions?"

The following graph illustrates a hierarchy of questioning matched to a well-known taxonomy of knowledge development (Bloom et al., 1956).

Hierarchy of knowledge and examples of questions to determine the learner's knowledge*

How well have you managed this patient? → Evaluation   Open question
What have you learnt?

In this patient, what is the diagnosis? → Analysis
…treatment plan? …likely outcome?

What do these findings mean? → Synthesis

What are the causes? …effects? → Comprehension
What do you understand by …?

What is the name of …? → Facts   Closed question
Where…?

* Adapted from Peyton and Allery[5] and Douglas et al.[6]

Questioning tips:
- Let your learners know that you will be using questions to advance their learning so that they are ready to address your challenging questions in a supportive (and not confrontational) context
- Restrict the use of close-ended questions to assessing factual or baseline knowledge
- Use open-ended or clarifying questions predominantly
- Allow time for response
- Ask learners to paraphrase what they learned, e.g. "So tell me what you learned about this disease from this patient's vignette"
- Follow a weak answer with a clarifying question, e.g. "Can you tell me more about what makes you think about this physiological mechanism with this particular patient vignette?"

References
Bloom, B.S. (Ed.), Engelhart, M.D., Furst, E.J., Hill, W.H., & Krathwohl, D.R. (1956). *Taxonomy of educational objectives: The classification of educational goals*. Handbook 1: Cognitive domain. New York: David McKay.

Spencer, J. (2003). Learning and teaching in the clinical environment. *British Medical Journal*, 326: 591-4.