**Title and Focus of Activity:** Framework for Student-led Discussions about Conceptual and Theoretical Neurologic Content

*Linking foundational and clinical sciences*

**Contributor(s):** Patti Berg-Poppe, PT, PhD, NCS, Patti.Berg@usd.edu; Lisa Inglis, PT, DPT, NCS, Lisa.Inglis@usd.edu

University of South Dakota

**Course Information:**

Neuromuscular Physical Therapy I; 5 credits; 4th Term; Fall, Year II; follows courses in pathophysiology, neuroanatomy, and differential diagnosis. Students have had a basic introduction to motor learning and client teaching and learning/community education in a 1st Term (Fall, Year I) course. This course introduces both theory and practical applications of motor control and motor learning to neuromuscular movement disorders.

**Learning Experience Description**:

Context: The assignment works well to help students explore more highly conceptual chapters specific to such topics as motor control (i.e., theoretical perspectives, underlying impairments and constraints), motor learning (i.e., theoretical perspectives, practice schedules, neuroplasticity, recovery of function), and frameworks for neurologic clinical practice (i.e., using the ICF framework to generate a problem list, the value of assessing participation, etc.).

Purpose: to challenge students to study a narrowly-focused concept, to design questions and probing statements that stimulate discussion about the topic, and, as “content experts,” to facilitate learning of the concept for a small group of peers.

Small Group Discussion Leader Assignment

Lifelong learning is the charge of all professionals. Soon, you will practice in environments in which you will share information with colleagues. Often, professional colleagues share evidence through journal clubs or informal office discussion. Consider, also, the other ways in which you will share your knowledge – such as with your patients or their families, with fellow health care providers, or with physical therapist students when you take on the role of clinical instructor. Communication, teaching effectiveness, and an understanding of how others learn will soon become a skill pivotal to your success as a clinician. The purpose of this assignment is to provide you with a framework for engaging peers in discussions specific to content covered in class.

Expectations:

1. Sign up on the provided sign-up sheet to choose a chapter for which you would like to serve as discussion leader. Those of you who have signed up as discussion leaders for the same chapter will work together to develop a discussion guide that facilitates dialogue about a narrowed area of interest from the chapter under study.
2. As a discussion leader group, meet outside of class, narrow your area of interest from the broader chapter (you’ll see sample ideas on the sign-up sheet), and develop a discussion guide structured by the below framework. You should check with your instructor after you’ve narrowed your topic to ensure that the topic is a feasible one with a natural fit for the framework.
3. To get started, it is a good idea to begin your work independently and generate your own guide based on the below framework. This independent work will not be submitted, but a group that comes together after having already generated ideas is likely to be better informed, more productive and efficient, and ready to brainstorm.
4. As a group, develop a discussion guide that you will all use to lead a peer group in discussion. Use the below framework. Your discussion leader group will create two versions of your group discussion guide:
	1. for your cohort-mates: a version with chapter title, area of content focus, synopsis, behaviors objectives, and *questions without your group’s responses* to the questions or statement probes;
	2. for all peer educators and your instructor: a version with chapter title, area of content focus, synopsis, behavioral objectives, and *questions with responses*.

You may use learning resources beyond your text to compile this teaching guide (i.e., acceptable academic resources such as journal articles, expert commentaries, and library resources) to master a focused conceptual topic specific to motor control, motor learning, or frameworks for practice.

1. This guide is due to your instructor no less than one week in advance of the scheduled class discussion date. At the same time, you will communicate with your cohort-mates the narrowed focus of your teaching, to improve the likelihood that your cohort-mates will arrive prepared for discussion.
2. During the class session, each member of your discussion leader group will work with a small group of classmates to generate discussion around your topic of interest. Following the session, there will be a brief quiz based upon the questions and probing statements provided to the instructor to assess the effectiveness of your teaching sessions. Your peers will also provide a reflection of their learning experience.
3. A self-reflection of the small group leader experience must be turned in to your instructor within 3 days of the learning experience. You should reflect upon what went well, what could have gone better, what you learned from the experience, and the degree to which you perceive your objectives were met. The reflection should be 2-3 pages, 11-point Calibri, and double-spaced.
4. Assignment grade distribution is: Discussion Guide Grading Rubric (instructor grades, 20 points, see attached rubric); quiz developed by instructor based upon discussion guide objectives (10 points); peer assessment (10 points, see rubric); self-reflection (10 points). The assignment is worth \*\*INSERT PERCENTAGE HERE\*\* of your overall course grade.

Discussion Guide Framework

The following sections *must be included* in your guide:

1. Chapter title
2. Content area of focused interest
3. Synopsis: What are the main ideas, concepts, or issues you would like your discussion group to remember from select content?
4. Behavioral objectives: Develop measurable behavioral objectives that specify what you want students to be able to do after the discussion session. These objectives establish the following behaviors you want your peer-learners to demonstrate after the learning session is complete:
	1. cognitive (i.e., list, explain, interpret, compare/contrast, differentiate, justify, evaluate, construct, develop, solve, propose, hypothesize, etc);
	2. psychomotor (i.e., feel, arrange, display, show, assemble, measure, manipulate, build, perform, shape, reorganize, compose, etc); or
	3. affective (i.e., reply, aid, tell, assist, share, support, defend, organize, use evidence, etc)

These objectives must be specific, concrete, realistic, and attainable. Draw on your understanding of goal-writing to work on the development of measurable goals (that is, how do you know if your peers have accomplished the objectives you have established for them?) Your instructor will use these objectives to shape the brief quiz that follows the discussion.

1. Questions: Three types of questions[[1]](#footnote-1) or probing statements will frame discussion …
	1. **1-2 Sparking Questions:**

These questions create context (“How does this relate to what I already know?”)

* + 1. Prepare 1-2 personally-related questions intended to draw the interest of group participants. These questions are designed to get everyone in the group involved in the topic in a meaningful way. These questions may or may not be related to patient-care. They should be a way for learners to associate their own experiences with the material to facilitate learning. You use these questions to prompt familiar and related experiences for learning purposes.
		2. Link with group members’ *experience or prior knowledge* (activate schema). For example, if the narrowed topic is “Fitts and Posner’s 3 Stages of Motor Learning,” a statement to spark conversation about might be, “share a motor skill that you have accomplished.” Examples of follow-up questions include, “What kinds of mistakes were you making when you began to learn this skill? In the beginning, what did you need to pay attention to in order to learn this skill? Now that you have mastered the skill, how has your attention to the skill changed?”
		3. Not based specifically on chapter *content*.
	1. **3-4 Focus Questions:**

Enhance comprehension (“What is important to know?”)

* + 1. This question is the heart of the discussion and should lead to careful consideration of chapter topics and issues. It should be closely connected to the goals you wrote in your discussion handout. The focus question may include some sub-questions.
		2. Comprehensive—at least 3 content-related questions
		3. Open-ended questions that focus on higher order thinking skills of analysis, synthesis, and evaluation.
		4. Follow responses to these questions with an opportunity to share what you know about the content that clarifies what others have said, gives greater depth to the discussion, or addresses points that may not have been mentioned.
	1. **3-4 Summary Questions:** Facilitate learning (“Why should I care about this information?”)
		1. Tie the ideas together and move the attention beyond the range of the chapter itself. What connects these ideas? Why are they important? How do they relate to other learned information? What will they mean to you as a professional? How can you apply them? What are the clinical implications?
		2. Focus on application of learned material
1. When possible, create visual aids, charts or graphs to capture main ideas and/or relationships and help your learners conceptualize.

Time for student to complete the activity:

1. preparation for activity outside of/before class:

Discussion leaders read the assigned text chapter or select assigned chapter pages well in advance of the in-class topic coverage. If an instructor does not select specific topics and allows students to choose a topic of interest from the chapter, the leaders assigned to the chapter work together to identify a theme or area of particular interest. If students are choosing their own topic areas, for best student success, it is recommended that the group consults the instructor when they’ve narrowed their topic, to ensure the topic is a feasible undertaking given the expectations of the assignment and that the topic is not too broad. With the narrowed content in hand, discussion leaders work independently to develop ideas for a discussion guide (using the framework described in the below assignment). The group of discussion leaders then meets to talk about what they’ve learned about the topic and to compare and discuss the ideas they generated for their own discussion guides. The discussion leaders collaborate to develop a single discussion guide that each leader will use to lead discussion with a small group of classmates. This discussion guide is submitted to the course instructor in advance of the instruction period to assure the work is of good quality.

*NOTE: The assignment framework and associated expectations should be distributed with the course syllabus to afford students sufficient preparation time and to ensure they understand the assignment expectations.*

1. class time completion of the activity:

Students lead a small group session using the discussion guides developed by their discussion leaders group. Allotting 20-25 minutes for each small group should be sufficient.

Readings/other preparatory materials:

Below are sample chapters relevant to discussions of motor control and motor learning. Selected chapters can be specific to content other than motor control or motor learning, as well. An instructor may also choose several topics within a single chapter as an additional alternative.

**Motor Control & Learning (Framework for Small Group Discussion; due \*\*Date\*\*)**

*Sign up for one of the following chapters in order to complete the “Teaching Tool” assignment*

|  |  |
| --- | --- |
| **1.** | Text Chapter 1: Shumway-Cook A, Woollacott MH. **Motor Control: Issues and Theories**. In: *Motor Control: Translating Research into Clinical Practice*, 4th ed. Philadelphia PA: Lippincott Williams & Wilkins; 2012. 3-20.*Sample topics of interest: Using Systems Theory for Task-Oriented Treatment Approaches; Influence of Reflexes on Patterns of Movement and Motor Control, etc* |
| **2.** |
| **3.** |
| **4.** |
| **5.** |
| **6.** |
|  |
| **1.** | Text Chapter 2:Shumway-Cook A, Woollacott MH. **Motor Learning and Recovery of Function**. In: *Motor Control: Translating Research into Clinical Practice*, 4th ed. Philadelphia PA: Lippincott Williams & Wilkins; 2012. 21-35.*Sample topics of interest: theoretical perspectives (i.e., Schema Theory, Ecological Theory); conditions of practice; motivation; feedback schedules; grading challenge; using classical and operant conditioning to explain clinic behaviors; Fitts & Posner’s Three Stage Model of Learning, etc.* |
| **2.** |
| **3.** |
| **4.** |
| **5.** |
| **6.** |
|  |
| **1.** | Text Chapter 4:Shumway-Cook A, Woollacott MH. **Physiological Basis of Motor Learning and Recovery of Function**. In: *Motor Control: Translating Research into Clinical Practice*, 4th ed. Philadelphia PA: Lippincott Williams & Wilkins; 2012. 83-103.*Sample topics of interest: enriching vs. deprived environments; neural reorganization and remapping; experience-dependent variables that influence neuroplasticity (i.e., select from: “use it or lose it,” “use it and improve it,” specificity, repetition, intensity, salience, time, age, transference, interference), etc.* |
| **2.** |
| **3.** |
| **4.** |
| **5.** |
| **6.** |
|  |
| **1.** | Text Chapter 6:Shumway-Cook A, Woollacott MH. **A Conceptual Framework for Clinical Practice**. In: *Motor Control: Translating Research into Clinical Practice*, 4th ed. Philadelphia PA: Lippincott Williams & Wilkins; 2012. 141-158.*Sample topics of interest: using the ICF framework to generate a problem list; the value of assessing participation, etc.* |
| **2.** |
| **3.** |
| **4.** |
| **5.** |
| **6.** |
|  |

Learning Objectives:

*Upon completion of the assignment, the discussion leader will:*

1. synthesize learning resources (i.e., acceptable academic resources, including the text book, journal articles, expert commentaries, and library resources) to master a focused conceptual topic.
2. generate questions that link the personal experiences of group members with aspects of the topic (i.e., schema building) and spark a personal interest in others to learn more about the neuro topic.
3. design well-considered questions or probing statements that prompt thoughtful discussion among group members.

Methods of evaluation of student learning:

**Discussion Guide Grading Rubric: Instructor Evaluation**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Excellent Work****(Score > 90%)** | **Quality Work****(90% > X > 80%)** | **Baseline Work****(80% > X > 70%)** | **Unacceptable Work****(X < 60%)** | **Percent Achieved** | **Percent Achieved x 5** | **SCORE** |
| **Degree to which work meets framework expectations** |
| Discussion objectives | Discussion objectives are well contemplated, realistic, measurable, and capture the intent of the teaching session as well as the chapter content’s main ideas. | Discussion objectives are realistic and measureable but may not fully capture the intent of the teaching session or the chapter content’s main ideas. | Discussion objectives may not be realistic or measurable or the intent of the teaching session or chapter content’s main ideas are not fully communicated through the goals. | Discussion objectives are poorly written, not well developed, and do not capture the intent of the assignment or the chapter content’s main ideas. | \_\_\_\_\_% | X 5 = | \_\_\_\_\_ pts |
| Sparking Questions | Sparking questions have the potential to make an unfamiliar concept familiar to the learner and draws on the learner’s experience to initiate the learner’s thought process. | Sparking questions are well contemplated but may not draw on learner experience or provoke learner familiarity to initiate the learning discussion. | Sparking questions are too content-driven to spark familiarity in otherwise unfamiliar content. | Sparking questions are poorly considered or do not meet above defined expectations. | \_\_\_\_\_% | X 5 = | \_\_\_\_\_ pts |
| Focus Questions | Are open-ended to prompt discussion, are content-driven and well contemplated. Questions are written to affirm learners understand most important points. | May not be open-ended but are content-driven and well contemplated. Questions are written to affirm learners understand most important points. | Questions are not written to affirm learners understand most important points. Questions may not be open-ended or may not be well contemplated. | Focus questions are poorly considered or do not meet the above defined expectations. | \_\_\_\_\_% | X 5 = | \_\_\_\_\_ pts |
| Summary Questions | Summary Questions move the discussion to professional practice in a way that makes sense and allows learners to “connect” meaning beyond the chapter’s content. | Summary Questions make a good attempt to discuss professional practice, but may not completely facilitate connections beyond the chapter’s content. | Summary Questions may not move the discussion to professional practice in a way that makes sense or may not allow learners to “connect” meaning beyond the chapter’s content. | Summary Questions are poorly contemplated, do not generate discussion, or do not facilitate connections beyond the chapter’s content. | \_\_\_\_\_% | X 5 = | \_\_\_\_\_ pts |
| **Total Score** |  |  | **\_\_\_\_\_/20** |

|  |  |
| --- | --- |
| **Student Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** | **Discussion Leader: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** |

**Peer Assessment**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Strongly Agree**2.0 | **Agree**1.5 | **Neutral**1.0 | **Disagree**0.5 | **Strongly Disagree**0 |
| 1. **The discussion surrounding the sparking questions successfully drew upon experience(s) that I could relate to or that I could contemplate as of interest to me.**
 | 🗆 | 🗆 | 🗆 | 🗆 | 🗆 |
| 1. **The discussion surrounding content-specific focus questions helped me better comprehend the topic of interest.**
 | 🗆 | 🗆 | 🗆 | 🗆 | 🗆 |
| 1. **I am better able to apply this information to professional practice as a result of this learning session.**
 | 🗆 | 🗆 | 🗆 | 🗆 | 🗆 |
| 1. **I understand this material better as a result of this learning session.**
 | 🗆 | 🗆 | 🗆 | 🗆 | 🗆 |
| 1. **The discussion leader effectively stimulated discussion within our group.**
 | 🗆 | 🗆 | 🗆 | 🗆 | 🗆 |

TOTAL POINTS: \_\_\_\_ /10

*Comments or constructive feedback:*

1. *Instruction framework and directions adapted and used with permission from Dr. M. Reisetter, University of South Dakota Department of Educational Psychology* [↑](#footnote-ref-1)