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# UMMS Student Perspectives on Small Group Teaching

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# UMMS Student Perspectives on Small Group Teaching

## Executive Summary

Authors: Diana Robillard & Laura Spring

## Facilitation

1) Principles
   i. Skill and approach of a facilitator is more important than the exact size of the group.
   ii. Begin with the basics: find out what students know - what they are capable of, what they have yet to understand about the topic - and adapt.

2) Focus
   i. Distill out key points.
   ii. Demonstrate organized clinical reasoning.
   iii. Discuss alternative clinical problem solving and management .
   iv. Provide feedback and guidance to help move discussion in the desired direction.

= Overall, students value a facilitator who can guide and challenge them to elicit the appropriate answer or clinical approach to a case.

## Group Atmosphere

1) Structure
   i. Keeping student groups the same, or varying them by session each have their arguments. A stable group allows for comfort, permits time to learn each other's styles, provides a more supportive atmosphere. However, students acknowledge merit in learning from other's styles and making adaptations.
   ii. With a good group and strong facilitator, students prefer staying put; the converse is equally true.
   iii. Excessive group composition change can be disruptive; too little can generate stagnancy.

= Be aware of how parallel courses are structuring their small groups to avoid too much of a good thing. The everything in moderation principle applies not just to courses, but to curriculum.

## Cases & Content

1) Connection
   i. Cases should correlate closely with what students are learning in lecture.
   ii. Information covered should be clinically relevant whenever possible, and clinical reasoning should be emphasized.
   iii. Individual groups may venture off on different tangents, but at the end of the session every student should be confident that key learning objectives were adequately covered.
   iv. Detailed answers should be provided to facilitators in advance and to students afterward.

= Every prepared student should leave small group with an approximately equal understanding of the material and application (or at least the tools necessary to achieve it with further study).

## Student Preparation

1) Expectations
   i. Expected student preparation should be clearly detailed by session in advance.
   ii. Each session should involve a new application of material, not simply a reiteration of what students prepared, or what was covered in lecture.

= Prep should involve reviewing background material and the approach to solving a clinical problem that will be applied to a new inquiry in the small group session. This creates space for clinical

reasoning and decision-making to evolve within the group based on collectively acquired knowledge.

## Evaluation

### 1) To grade or not to grade

i. Students are supportive of being evaluated for their small group work.
ii. Adequate transparency as to course credit, evaluation method and content is essential.

= There are several familiar models for clearly and consistently evaluating small group work, each of which is outlined in the document that follows.

## Attendance

### 1) Show or no-show

i. No clear consensus was reached.
ii. Students recognize that there is a disconnect in the notion of asking facilitators to commit time and effort in preparation if students chose not to attend.
iii. Fundamentally, most students are not opposed to an attendance requirement if they feel their time is being used effectively.

= Culture is critical to attendance. Making small groups mandatory, efficient, and valuable to learning is a collective and committed process involving prepared students and prepared faculty.

# Improving Small Group Case-Based Learning (draft)

Authors: Diana Robillard, Laura Spring

*This document is largely based on a focus group discussion held with twenty 2nd year students in April 2010. We asked them to consider their experiences with case-based learning in small group settings. PPS was excluded, and most of the memories focused on small group sessions from the BOD course and MBBII (both 2nd year courses). In addition to some specific questions, we asked them what worked well and what did not work well. We then added some examples to the document before sending it back to the focus group attendees for additional comments. We plan to do more research in this area in order to produce a more evidence-based document in the future, but the focus will remain on UMass best practices.*

**Facilitator Characteristics**

*Many students mentioned that a quality facilitator is key to the success of a small group. Most agreed that having enough quality facilitators was their most significant concern about small groups. Students were willing to sacrifice the "smallness" of the group for the quality of the facilitator (discussed in group characteristics).*

- Familiarity with students' knowledge and ability level is crucial: Facilitators should not be saying “was this in your syllabus?” They should have a clear understanding on how the student has been prepared for the session.
- Preparation for sessions on the part of the facilitator is extremely important: Framework and outline for the small group are critical—demonstrates a plan of attack and agenda for learning.
- Students should know who their facilitator is, their primary context (clinician, researcher, resident, etc.), and how to reach them.
- Facilitators need skills in dealing with strong personalities that tend to dominate groups.
- Facilitators need to be able to distill out the key points. These points should be in the faculty prep and (potentially) given to students at the end of the session.
- Small group case-based learning provides a great opportunity to practice differential diagnosis. Students find it helpful to hear how clinicians differentiate between diseases in “real life” and appreciate when a skilled facilitator can guide them through a hypothetical evaluation of a patient presenting with a particular problem by demonstrating their own clinical reasoning. Facilitators who are clinical faculty have the opportunity to model clinical decision making.
- Students like facilitators to provide feedback and keep the discussion going in the right direction.
- There are pros and cons to rotating facilitators. Keeping the same facilitator for each group for the entire block allows for familiarity with students and fosters a consistent learning environment. On the other hand, rotation of leaders allows for an averaging of groups’ experiences.
- Mixed opinions on need for facilitators to be content experts. Some feel teaching skills are more important. Some mentioned that most residents, IM physicians, and FM physicians should be able to adequately teach most small groups in medical school.
- Mixed opinions on questioning technique: some do not like “cold call” while others feel it encourages preparation and makes them feel more engaged. Also good practice for the clinical years. A compromise: students are asked questions “in order” around the table so student can mentally prepare a bit. However assigning students one part of a question ahead

of time disengages students from the process. It is the facilitator's job to take the student where they are at and guide them to the right answer with appropriate help. Students should not be made to feel "dumb". Need to emphasize it is OK to be wrong!

- Mixed opinions on whether or not formal, live training should be required for small group facilitators. Perhaps training should only be required for new facilitators and those who are receiving poor reviews? *This was asked in our session. We recognize that not all students have the background knowledge to make educated suggestions about facilitator training, but in the spirit of transparency wanted to include it in this document as something that was discussed*.

**Group Atmosphere**

*Overall, this area was not a major concern to students. Most report good experiences regarding working with their classmates in small groups.*

- Students need to feel safe asking questions.
- Most prefer having the same students in their small group for the entire block of time: allows for comfort, better able to learn each other's style, and provides a more supportive atmosphere. However, the groups should not be the same for everything since there is merit in learning from other's styles and making adaptations.
- Try to refrain from always making groups based on alphabetical order.
- Be cognizant of the setting of the small group, both in terms of physical seating arrangements as well as number of students vs size of the room.

**Cases/content**

*This area was of some concern to students. They felt it was a waste when cases did not correlate well with what they were learning in lecture. Students also felt strongly that each group should be covering the same material as it pertains to the objectives of the session. Individual groups may venture off on different tangents, but at the end of the session every student should be confident that key learning objectives were adequately covered.*

- Information presented should be clinically relevant whenever possible, including the length and amount of information provided. Ex) Being called down to the ED to meet a patient when minimal data is available vs an outpatient office where the patient is well known.
- Should be material covered in class with expansion of application; should be relevant to objectives and exams.
- Clinical reasoning should be demonstrated and required.
- Answers should be provided to the facilitators in advance in order to ensure that they cover the correct material.
- Answers should be provided to students afterward. We understand that faculty have some reservations about this, but students really do want the answers. It is helpful not have to take copious notes when you know some semblance of answers will be provided, and this allows students to focus on the discussion and problem at hand. Perhaps an alternative is distributing "key points" which were identified in faculty prep to students.
- Consistency is needed between groups. Students should not be learning drastically different things in different groups. This should be assessed in ongoing fashion, not at the end of small groups when it is too late to take action. (This is another reason it is helpful to have answers provided. It ensures objectives have been met.)

**Student Prep**

*Students agreed that an expectation of preparation is appropriate if their preparation is directly related to the session. It was strongly felt that the small group session should be a new application of material, and not simply a reiteration of what students prepared.*

- Needs to be an appropriate amount of material.
- Expectation of preparation should be evident.
- Prep important because it allows small group time to be well-utilized.
- Prep should not equal actual seminar material.
- Appropriate prep material needs to be provided; should not simply be a PowerPoint presentation.
- Prep should involve reviewing background material and the approach to solving a clinical problem. The small group meeting should then be an opportunity to apply the approach.This would allow for real-time reasoning, thinking, and decision-making to happen within the group dynamic, not at home.
- Be aware of spacing between when the material is originally presented and when it is covered in small group.
- Need a balance of incentive to prepare vs not going overboard.
- Assigning 1-2 questions per student has been tried. Some liked it, but others felt that the small group session turned into students simply dictating the answers to each other and "tuning out" once his/her assignment had been presented.

**Evaluation**

*Students were overall supportive of being evaluated for their small group work, as long as transparency exists.*

- Quizzes OK if they are reviewed at an appropriate time; unclear whether these should be formative or summative.
- Could use quizzes to evaluate student preparation (eg, "entrance" quiz).
  Alternatively, could evaluate participation. Since this is subjective, a simple yes the student participated vs no the student did not participate system may be preferred.
- Role for peer review of participation/appropriate group contributions is unclear.
  Transparency is necessary; should be clear what exactly quizzes, etc. count for toward final grade before any session occur.
- There are other ways that students could demonstrate participation such as emailing questions or thoughts, discussions after class, etc.\

**Attendance**

*Overall a contentious subject, since students have varied learning styles.*

- Fundamentally, most students are not opposed to an attendance requirement if they feel their time is being used effectively.
- Recognize that there is a disconnect between asking facilitators to commit to a lot of time and effort in preparation if students are allowed to not attend.
- If answers are provided, some students would choose to skip the sessions and simply study the answers on their own if attendance not required.
- Some students felt like the curriculum should not have activities requiring attendance for all 5 days of the week because this does not meet the needs of all learning styles (some prefer to spend time learning on their own).

- Perhaps attendance should not be required at 100% of small group activities, since things do pop up and the process of “excused absences” can be arduous. If 100% attendance might is expected, a reasonable excused absence policy is needed.
- Again, emphasizing transparency, how will attendance be applied to grade if it is required vs how will students who skip required classes be penalized.

**Group size**

*Considered a tough question to answer. The ideal number can really vary depending on the specifics of the small group content.*

- Varied opinions; larger OK as long as students can still feel engaged.
- Many said they would accept larger group sizes (within reason) in exchange for quality teaching.
- Some mentioned 20 as a max size that would still allow for participation.

**Fears About More Small Group learning**

*Students were asked to name their top fears.*

1. Ineffective facilitators
2. Inconsistency between material covered by groups
3. Fear it will not be a good use of time; fear of “wasting time”; students should be EXCITED to attend such groups as they provide a unique learning environment.
4. Fear that information presented in large group sessions will be duplicated in the small group sessions; there simply are not enough hours in the week to be attending “double-lectures”

**Examples:**
**1. MBBII small groups – neurology section**

*Below is an example of a case discussed in a neurology small group session. Students were asked to think about the cases beforehand to be prepared for the discussion. Attendance at these sessions were not mandatory for the class of 2011. Several students chose to skip the sessions and wait until the answers were posted. Some preferred to study this way, others were not satisfied with the quality of their facilitator after attending a prior session. Other students had excellent experiences with some of the facilitators. Anecdotally, the facilitators who were not considered effective were more likely to simply lecture the entire session while those considered effective were more skilled at turning the session into an active discussion. Overall, the content of the cases were considered effective. The content directly related to material covered in class and allowed students to apply their knowledge.*

A 60-year-old woman notices a feeling of heaviness and numbness on the right side of her face and pain behind the right ear on a Saturday evening. The next morning at breakfast her husband notes that she has an asymmetrical smile, she is unable to elevate the right corner of the mouth, and she has some difficulty eating. She attends her grandson's first violin recital on Sunday afternoon, but has to resist the impulse to cover her right ear since to her embarrassment the sound is almost painful. On Monday morning, the right facial weakness seems worse and she presents to the ER. There is a history of diabetes with good control of blood sugars on oral hypoglycemic agents; hypercholesterolemia, managed with diet and a statin; and mild hypertension, controlled with two medications (beta-blocker and diuretic). In the ER she cannot bury the eyelashes completely on the right, and she cannot wrinkle the right side of her forehead as well as the left side. She can barely elevate the right corner of her mouth when asked to smile, and cannot puff out the right cheek (the left is normal). Taste is diminished on the right side of the tongue compared to the left. Hearing is normal but she notes that sounds (such as the telephone ringtone) are particularly unpleasant. The skin around the ear and the eardrum appear normal. (The ER physician finds no history of skin rash, joint pain, fever, headache and no nuchal rigidity.)

1. Please localize the lesion in this case and explain your choice briefly:
2. What other parts of the neurological examination must you check to exclude other disorders?
3. Comment on what thoughts the ER physician might have had about the etiology of the patient's disorder.
4. The ER resident suggests several tests and discusses a proposed course of treatment (s). What tests and therapeutic approaches might have been proposed?

**Provided Answers**: This is a fairly typical presentation of Bell's palsy, an idiopathic lesion of the facial nerve. There is vague pain around the ear followed by weakness of the whole (same) side of the face. There are some clues that a neurologist would use to localize it further to the facial canal portion of the facial nerve, but it is not important for a non-neurologist to make this localization—only it is important to recall that the facial nerve has some interesting functions (other than face muscles) that travel with or in it. "

**Faculty Prep (per Course Director):**
The faculty got the same "answers" to the cases that you students received after the cases were discussed. This is mostly to remind them of the appropriate level of detail to present to the class (in my experience, this is the biggest issue for experienced clinicians--they forget when they learned stuff in medical school, and how much is appropriate for a student in the second year to know).

In other MBB2 questions, I also make sure that the faculty get the data that the students are learning that they may have forgotten or may not be current on, such as demographics and epidemiology, or pathologic appearance of tumors, genes involved, etc. However, the faculty are allowed to use whatever small group

leadership style they wish--some do this similarly to the way that they precept their clinics or attending rounds on the wards, asking the students to reason as a neurology trainee would. This involves localizing the lesion, deciding on what kinds of pathophysiology are reasonable considerations based on the history and exam, discussing what tests can confirm ones' clinical impression, and discussing treatment. In that case they are using the questions given with the case to be sure that they cover all the material that the students are supposed to cover. Others might just go through the questions as listed to be sure the students get all the material.

| PROPOSED IDEAL PREPARATION: Review approach to localization as taught in MBBI (and brief review session at beginning of MBBII). Review the components of the Neurological Exam and how to interpret findings. (Est:60 min-- this length is an exception, as reviewing this material was integral to student success in the course as a whole, and this was the first case session) | |
|---|---|
| STRENGTHS | PROPOSED CHANGES |
| *Demonstrates clinical reasoning:* students asked to think like neurologist, and also ED doc) | *Student preparation should not be the same as small group material:* In this case, students had already answered the questions prior to the session—there was no "live" problem solving |
| *Clinically relevant information presented:* Beginning of case is similar oral presentation of an HPI. | We would encourage more facilitator development. As mentioned above, students had varying experiences with facilitator quality |
| Answers were provided to faculty in advance, to ensure material was covered | |
| The same answers were provided to students afterwards | |

**2. The BOD rheumatology/MSK block small group sessions**

*These sessions were unique in several ways. First, the cases that students were given beforehand (see below) were set to PowerPoint during the actual small group sessions. This allowed the cases to be intertwined with key teaching points that were made in lecture. For example, after the question "What labs would be helpful in supporting a diagnosis of RA?" was posed, there was a slide explaining the details of the relevant tests since many of these were new to students (ex: rheumatoid factor). It also let physical findings and test results be demonstrated as they would be in clinic instead of a verbal description. Furthermore, this approach kept the sessions moving and ensured each objective was met. Every small group used the same PowerPoint. Another unique feature of these small groups was that each session included patients. This was relevant for rheumatology since there are distinct physical findings that students can appreciate when meeting patients and hearing their stories. The patients usually came in at the end of the session after the students had worked through the cases. We recognize that this approach takes more coordination and is not as applicable to all disciplines.*

CASE STUDY: RHEUMATOID ARTHRITIS
A previously healthy 40 year old female is referred by her primary care physician because of persistent joint pain that is unresponsive to NSAIDs. For the past 3 months she has pain and swelling in her wrists, fingers, jaws, and ankles that has caused her to miss several days of work. Her pain is worse in the morning and she feels stiff until noon. It often wakes her from sleep.

Medications: Diclofenac 75mg po bid for 4 weeks
Family Hx: Grandmother with "arthritis"
Social: Married, 3 children; school teacher, no ETOH/drugs
Physical exam: Vital signs stable, no skin rash. No lymphadenopathy; General exam is normal
Hands: swelling and warmth of all MCP and PIPs with painful range of motion.
Musculoskeletal exam:
Wrists: swelling, warmth and redness over ulnar styloid; painful range of motion.
Nodule present on the right forearm extensor surface.
Shoulders and hips: full range of motion without pain.
Sternoclavicular Joint: mild swelling and tenderness to palpation.
Temporal mandibular joint: limited opening of jaw due to pain
Neck: full range of motion without pain.
Ankles: swollen and tender to palpation.
QUESTIONS:

1. What is the differential diagnosis? (Be prepared to provide evidence for and against a diagnosis).
2. What labs would be helpful in supporting a diagnosis of RA? Should you draw an ANA? If so, why?
3. Does this patient meet ACR criteria for RA?
4. What are the basic characteristics of RA?
   i.e.: Chronic vs acute Joints Affected, Systemic nature of illness, Variable expression and response to treatment, Symmetrical nature, AM stiffness, Deforming arthritis
5. How does RA differ from OA in presentation and course?
6. What are the extra-articular features of RA?
7. Would you obtain x-rays on this patient? If so, what would you expect to find?

Required reading: 1. Syllabus/reading assignment on Pathophysiology of RA
2. Venables PJW: Clinical features of RA Up to Date Version 18.1

**Faculty Prep (per Block Director):**
The purpose of the powerpoints is two fold: 1) to make sure not only our points are illustrated but 2) give the faculty preceptor a rough guide on what to discuss and make the information covered in all small groups uniform (so the students don't feel that one group received more/less information than the other). I usually verbally go through this with the newer faculty members who are just starting to teach the small groups.

| PROPOSED IDEAL PREPARATION: Review the clinical presentation as well as the clinical and laboratory diagnosis of RA and OA (30 min max) | |
|---|---|
| STRENGTHS | PROPOSED CHANGES |
| *Demonstrates clinical reasoning:* Students asked to provide reason for ordering labs/images | *Student preparation should not be the same as small group material:* Students had already answered the questions prior to the session—no "live" problem solving |
| *Clinically relevant information presented:* Students needed to use ACR criteria for diagnosis. | Applaud the effort to include clinical resources by using UpToDate as a reference, however:<br>1. Students cannot access UTD at home (must be on campus)<br>2. UTD may be too detailed for the level students are at- consider a review article (ex below) |
| *Consistency needed between groups:* Structured material ensured that all objectives were covered at an appropriate level by facilitators | |
| Students interviewed patients to hear how their clinical presentation was different from "textbook" presentation | In this case, students knew the outcome prior to reading the case- it was titled "Rheumatoid Arthritis." If the title were changed to a "Chief Complaint" it would increase the clinical reasoning needed during the session. |
| Answers were provided in the presentation | |
| The presentation was made available to students after the session via WebCT | |

Rindfleisch J. Diagnosis and management of rheumatoid arthritis. Am Fam Physician. 2005 Sep 15;72(6):1002, 1004.