

Continuous Surveying of Small Groups for Monitoring Implementation of a New Curriculum

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INTRODUCTION

- Medical schools use small groups to engage/ personalize learner's education; effective surveillance of small group learning environments is challenging
 - Course evaluations provide retrospective feedback
 - Drop-in spot checks are resource intensive; may not be representative
- Brief surveys are an efficient strategy to obtain weekly feedback about group process and curricular content; this is particularly useful when implementing a new curriculum
- Our **purpose** was to evaluate the success of brief surveys as a strategy for continuous monitoring of our small group learning experiences

CONTEXT

- The new M1 curriculum was implemented in 2016-2017; the M2 curriculum in 2017-2018. Each learning society is subdivided into six small groups: three in East Lansing and three in Grand Rapids
- Small groups meet for two hours for modified PBL: M1 groups meet twice weekly, continuing as weekly groups during the second year
- During small group, students debriefed about their clinic experiences and worked through mPBL cases

DESIGN

- After each small group, faculty received an email link to a brief survey; administration automated using Qualtrics®
- Faculty were asked to rate the group mood (0= negative; 10= positive) and describe the group mood
- In addition, faculty were asked what worked and didn't work for the PBL content, and report late or missing students

Q1 Overall, how would you characterize the mood of the students in small group today?



Q2 How would you characterize the mood of your students this week?

Q3 Were students on time? Yes No ... List those not on time:

Q4 Were all students present? Yes No ... List those absent:

Q5 Thinking about the mPBL content, what worked well?

Q6 What didn't work well?

Q7 What biomedical or psychosocial topics were particularly challenging for the students to learn or you to teach this week?

OUTCOMES

- Faculty were able to successfully complete the survey, as shown in Table 1 at right
- Mean survey completion time was 3.8 minutes for Year 1 groups and 3.5 minutes for Year 2 groups; mean survey completion times by week for 2018-2019 are shown in Figure 1
- Small group mood ratings ranged from 2 to 10 and showed weekly variability by learning society for both first year (Figure 2) and second year (Figure 3) small groups
- These data allow exploration of the variability of individual small groups week by week; Figure 4 shows the variability by week of three small groups in the same learning society
- Small group ratings compared by academic year shows that mood ratings the first year of curriculum implementation were generally less positive than subsequent years: 7.9 vs 8.4 vs 8.4 for the Year 1 curriculum and 8.0 vs 8.3 for the Year 2 curriculum (Figures 5 & 6)
- Comments about the small group mood reflected a variety of states, such as *attentiveness, fatigue, preparedness, supportiveness, stress*, etc. (Table 2)
- Faculty were able to give substantive and specific feedback about the PBL content to support ongoing quality improvement

Table 1: Number of Surveys Completed

Academic Year	Year 1 Curriculum	Year 2 Curriculum
2016 - 2017	1,325	----
2017 - 2018	1,331	934
2018 - 2019	1,409	1,050

DISCUSSION

Feasibility and Generalizability: This approach is feasible: faculty participation was high. The approach yields rich weekly samplings across 72 small group sessions, and requires minimal staff time and resources to implement. The benefits outweigh the resource needs.

Strengths/Limitations: These data complement observational and student survey strategies, and allow early detection of small group problems. The survey characterizes content and process and facilitates ongoing monitoring during curriculum implementation. Periodic samplings of students' ratings of group mood correlate with those of faculty. Based on faculty feedback, it became apparent that mood ratings and narratives also reflect faculty anxieties, concerns or frustrations. Not all faculty initially were receptive to the surveys; a small group required additional follow-up and monitoring.

Figure 1: Mean Survey Completion Time by Week (2018-2019)



Figure 2: Year 1 Preceptor Mood Ratings by Week and Learning Society (2018-2019)

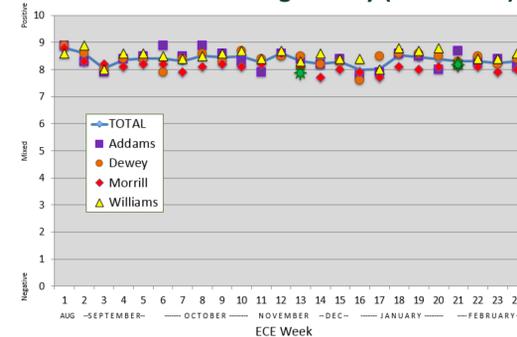


Figure 3: Year 2 Preceptor Mood Ratings by Week and Learning Society (2018-2019)

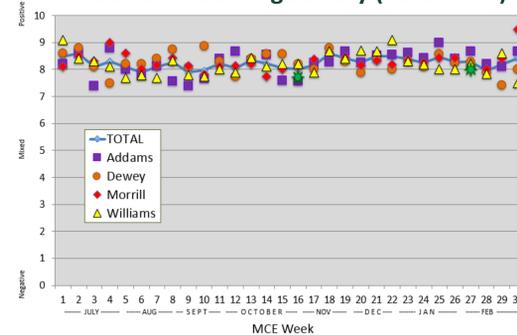


Figure 4: Year 1 Preceptor Mood Ratings by Week and Small Group

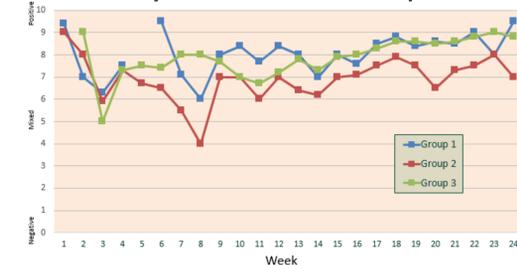


Figure 5: Year 1 Preceptor Mood Ratings by Week and Academic Year

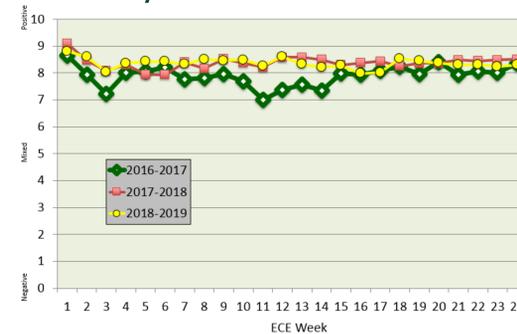


Figure 6: Year 2 Preceptor Mood Ratings by Week and Academic Year

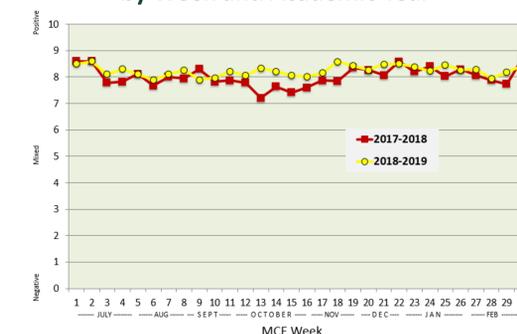


Table 2: Year 1 Survey Comments Week 23—Palpitations (Feb 18-22, 2019)

How would you characterize the mood of your students this week?
 tough material, some students battling mild illness, ready to move on to intermissions - eager for break
 Attentive, even though Intermissions are so close!!
 Positive vibe in the group—looking forward to intermissions. Nice discussion of debrief.
 Tired
 Everyone seemed fine
 Good
 Good- happy to be almost done with small groups
 good
 It was very subdued. Everyone seemed tired, emotionally and physically exhausted. Or maybe that's just me feeling that way?!
 upbeat, looking forward to break/end of small groups
 Serious and attentive (as always!)
 Very positive, high energy, happy; willing to work through the material.
 Overall good
 Better than last week
 Students were in good mood today and most were prepared.
 Energy level was low today. Students found the amount of prep a bit overwhelming, and several of them did not get through everything and found this a bit discouraging.
 The mood was a little down from normal but I think it was due to the prior discussion we had in Sim related to Navigating the Difficult or Challenging Clinical Encounter.
 Excellent. Such a supportive group. They encourage one another.
 Great group. All smiles.
 Positive
 Jovial
 Good , ready to be done , but more energy today
 Fatigued
 A little stress getting portfolio ready, coaching meetings, and poster presentations - not to mention awaiting NBME scores.
 getting tired
 Good, but tired

Thinking about the mPBL content, what worked well?

Well developed case, which was easy to follow for the students
 EKGs and tachyarrhythmias worked well.
 Students did well explaining how thyroid hormone is synthesized and explaining feedback loops with the thyroid and pituitary.
 This has lots of good content and LGA this week correlated well.
 discussion of EKG strips, took a long time, but was helpful I think
 Table of anti-arrhythmia drugs was challenging. Dr. Alan's video helped
 Good depth of discussion for ecg and dysrhythmia discussion
 Liked the content this week. Students valued the EKG readings
 I "front loaded" this PCG with additional relevant basic science covered in previous PCGs (heart sounds, Wiggers diagram, cardiac conduction system, and BP = CO x PVR ; CO = HR x SV; SV = EDV - ESV), then went on to the case study. This worked very well.
 Multiple cases, and interpreting the EKG
 The diagrams were good. The video of adenosine treatment of AVNRT was amazing.
 The two cases (involving premature or ectopic beats and paroxysmal atrial tachycardia) were well suited to begin discussion of cardiac electrophysiology.
 Students seemed well prepared. Amount of slides just right.
 The case was well-written.
 None of the students (or me!) knew hemostatic plug but I "love" it. It's so descriptive!
 The case over helped to make the teaching points about hyperthyroidism or atrial fibrillation.
 Putting up the differential diagnosis of palpitations on the board. I also encourage the students to really delve into the biochemistry for the thyroid synthesis slide.
 Well prepared for the material presented in the power point
 Excellent basic science on thyroid hormones.
 Good cases, good length
 The discussion of thyroid was very good, students were elaborating and asking questions. At the beginning there was a little bit of skepticism (or cynicism) because the diagnosis was clearly hyperthyroidism. I told them that the diagnosis is hyperthyroidism, but the learning objective in this PCG is not only to create a diagnosis, it is also to create a differential and in this particular case to go deep in the basic science (yay!).
 I liked the graphics
 It took awhile, but the students drew the entire process of iodide intake, iodination and secretion of the thyroid hormones on the board as suggested in slide 5 before looking at the answer slide.
 drawing out the process of T3 & T4 formation was helpful. Especially since none of these students used the primary resources and just watched the Boards & Beyond video, so their level of detailed knowledge was lacking, particularly with regards to the location of various events
 The content was good, but I would figure out if emphasis is on thyroid or the a fib, we spent a lot of time on thyroid and didn't get into much depth on the a fib/pharmacy

What didn't work well?

It would be helpful to not interchange the use of HR and pulse. Case 2 here is a time when they may be different. slide 16 has the answer to the question in the image reference. I appreciate the need for references, but could that one be in the faculty notes only? The image of the delta wave on slide 22 is nice, but it has low resolution and gets very fuzzy when blown up on the room screen. Could there be another option or a higher resolution version?
 Students were not drawing a good connection from the science to the clinical. Poor questions in the history taking.
 1. Slide 14: please change nomenclature in VS from P > 200 to HR > 200.
 2. Please emphasize much more when we SHOULD not perform carotid massage (infants, elderly, know vascular disease, etc)—this is potentially a dangerous maneuver if performed when it shouldn't be. There are safer vagal maneuvers that should also be taught.
 I would eliminate slide 11 too confusing for discussion of VPB , might fit in after tachyarrhythmias
 slide 18 i would show slow and fast pathways in AVNRT and explain mechanics
 Slide 17 is difficult because students do not really understand atrial flutter
 It would be useful to see rhythm strips for focal atrial tachycardia, sinus tachycardia, multifocal atrial tachycardia. Instead; Might be interesting to switch PCG1 and PCG 2 presentations, Add afib and aflutter to PCG-2. Students would have had their EKG lab and would feel more comfortable looking at PCG-1 (if it was later in the week)
 The content seems far more detailed than other sessions for this year, so it makes me wonder if the information presented is truly necessary to be learned at this point.
 Student's didn't really understand how a thyroid uptake/iodine scan works and why it is indicated. I really think trying to talk about Afib is out of place here. It isn't at all realistic that this young person with a structurally normal heart and treated hyperthyroidism would present with afib. We should cut this part out and delve more into hyperthyroidism. Talk about how we might treat it differently if she were pregnant, the risk of TSI's to the infant, how thyroid hormone levels change with pregnancy. There is so much high yield endocrine stuff to talk about here I don't think it is worth trying to squeeze in such a big and important topic such as afib.
 Nothing
 Anti arrhythmics slides were too busy
 Trying to get them to use the 4 paragraph technique of HPI, didn't work very well. They didn't follow any pattern but also asked very good questions that were seemingly better than typical PQRST questions. Also lot of redundancy around asking what could have caused PVC's, was asked 3 times during case.
 There were no major problems
 WPW slide not needed, seemed like a nonsequitor
 Some difficulty with the pharmacology in the second to the last slide due to running out of time. If meant for a brief introduction to these drugs, then OK. If detail required, consider placing earlier in the presentation - maybe tied with the first case, then come back to the meds again with the second case.
 Slide 22 is not a good representation of WPW. If you want to explain the 'delta wave' the arrow should be going the other way. It was very confusing for the students.

