

# Integrative Pharmacotherapeutics Learning Communities

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## Curriculum Change

### Modified Team Based Learning (TBL) that is Student Centered and Interactive

Focused on student performance rather than what faculty cover. Uncovering material rather than just covering material. Multiple resources for knowledge acquisition including virtual microscopy accessible from home, class recordings available 24/7, small groups, standardized patients, simulations, problem based learning, and new ultrasound curriculum.

## Introduction/Aim(s)

Revision of pharmacology curriculum to include integrative pharmacotherapeutics cases in learning communities.

## Program Description

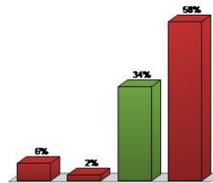
The second year medical school curriculum for the pharmacology curriculum was substantially revised to include integrative pharmacotherapeutics cases. The course revision included 9 cases to be presented to the learning communities formed in the second year courses. These learning communities are also used in another integrative course Introduction to the Patient so **the students spend some time working together in the second year in multiple scenarios.** As part of the regular integrative pharmacotherapeutics course, the 139 second year medical students were placed in groups of 6 or 7. The cases were written by subject matter experts Tom Lynch, PharmD and Ed Davidson, PharmD, MPH on a variety of common multi-dimensional problems such as Hypertension, Atrial Fibrillation, Antithrombotic Therapy, Peptic Ulcer Disease, COPD, and Diabetes among others. Students were presented with cases as a mechanism of review before exams. The students used electronic resources as well as a panel of faculty experts to answer questions posed in the cases. Groups were chosen at random to present their answers to the case questions.

## Program Evaluation

For year 2012-2013, a mid-course evaluation was used to formatively evaluate the yearlong course at mid-term. A final course evaluation was used at the end as well as a specific evaluation of the case usage. For year 2012-2013 an additional measure of group functionality was added. The first TBL in August 2013 showed some dysfunction:

2. I would rate the functionality of my team as... (Multiple Choice)

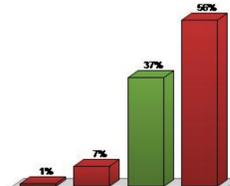
	Responses	
	Percent	Count
Totally dysfunctional	6.25%	9
Low	2.08%	3
Average (c)	34.03%	49
High	57.64%	83
Totals	100%	144



The second TBL session showed some improvement but had lower participation

2. I would rate the functionality of my team as... (Multiple Choice)

	Responses	
	Percent	Count
Totally dysfunctional	0.75%	1
Low	6.72%	9
Average (c)	36.57%	49
High	55.97%	75
Totals	100%	134



**Group Creation** - The groups were put together at the beginning of the year the following steps:

1. Random placement
2. Arranged by gender distribution
3. Arranged by ethnicity

Students remain in these groups for Introduction to the Patient, Career Advising, and Pharmacotherapeutics. Nine students replied that their groups were low functioning and 1 student reported total dysfunctional. Only 1 group had 2 low functioning responses. This group will receive a written invitation to attend counseling for group functionality from our academic development officer.

## Discussion

The course evaluations were well received and immediately brought improvement in the course evaluations at mid-course that remained throughout the year. Initially, attendance was required, but not taken at all sessions. The students remained committed to attending the sessions even when the attendance was not taken. Student comments reflected their appreciation of the interactivity of the sessions.

## Lessons Learned

Of the 22 groups in the learning community, 2 were dysfunctional and probably needed intervention early in the course. The body language displayed, lack of communication in class between group members and comments on evaluations showed a distinct lack of functionality within the group. Next year, an earlier group functionality assessment and intervention will hopefully help dysfunctional groups. We are planning to work with our Director of Academic Development to help us do earlier interventions to improve communication and functionality in groups.

## Student Comments

I thought that TBL (Team Based Learning) allowed for group study of the pharm material. It was **helpful in my opinion to hear something explained by a peer**, that I might not necessarily have understood in its entirety before TBL. Additionally, it breaks the idea of just going through the information and memorizing, but instead allows for clinical application to a case..

I really enjoyed the TBL sessions. It helped to integrate the lecture materials and learn through clinical cases. It provides another way to review the materials prior to an examination. I found it very useful, especially the last TBL session, where a list of medications was given and we had to sort through the problems. As a discussion class, it is great, but **don't turn this into individual small groups in separate room because not all facilitators are as qualified** as Dr. Lynch. Keep it in this setting where Dr. Lynch is accessible to all students. I would continue with the current format and wouldn't change much. If you are going to make changes, don't make big ones. Like Dr. Lynch always says, "If you are going to make changes to medication, make one/two changes only and see what happening."

Working as a **group and with people I didn't normally study with** helped me to remember and consolidate information better than just memorizing.

The **TBL cases were helpful in jump starting my studying for each exam.** The timing of them before each exam was perfect for giving me a good overview of the subjects on the exam and telling me what some import issues were for me to focus on when reviewing the material for the exam. **I am generally not a fan of small group problem solving like this, but it was helpful in this case.**

## References

<http://bridges2tech.wordpress.com/2013/10/27/integrative-pharmacotherapeutics-learning-communities/>

