

Where did I get these arguments?

Designed and implemented one of the TBLs in 1<sup>st</sup> year Cell/Path Course (2 years)

Student comments and scores from Cell/Path (2010-2011) and Genetics (2011-2012) course evaluations

Discussions with Faculty who did both workshops and a TBL (Cell/Path 2011-2012)

Literature :

Thompson et al., 2007 “Factors influencing implementation of TBL in Health Sciences Education”

Michaelson et al. 2008 “TBL for Health Professional Education”

Koles et al., 2010 “The impact of TBL on medical students’ academic performance”

Disclaimer:

Preparing this presentation has been an academic exercise and does not necessarily reflect my personal views.

# Issues particularly relevant to students



1<sup>st</sup> year medical students hiking in the Sierra Nevadas.

# Argument 1: Most work may be done by a minority of students.

Faculty comment: In TBL, only a few students answered questions during the GRAT and/or Application Session. The rest just went along for the ride. In a small group workshop or PBL, it is possible to get all students involved.



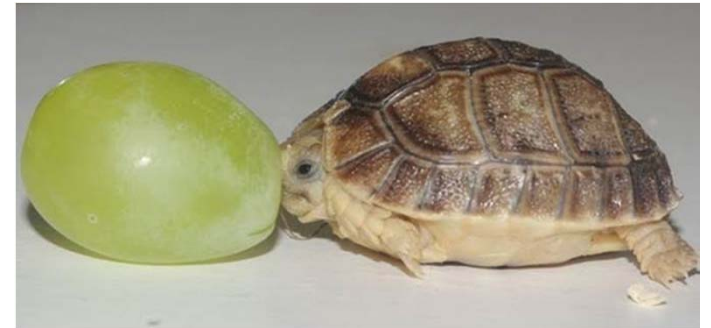
Student comment: “Packing out entire class into a room and asking us to be engaged in discussion means that only the people who already know the answers are involved and those who are the most confused sit quietly, hoping that their ignorance won’t be displayed to the entire class”



## Argument 2: TBLs can be inefficient and may pose time allocation problems for the student.

### Logistics:

Time spent with handing out exams and other materials; and making transitions from one component of the TBL to another



### Student comments:

“It was not high-efficiency. The format promoted talking and didn’t incentivize learning”

“TBL actually... wasted valuable time that could have been spent studying”

“It is a time-sink”

“I don’t like the school dictating how I should learn”

### Homework issue:

TBL Homework: study time too little (74%), homework too much (84%)



## Data on contribution to learning:

Cell/Path student scores (2010-2011):

Lectures 4/5

Workshops 4.2/5

TBL 3/5

Human Genetics student scores (2011-2012)

Lectures 3.9/5

TBL 3.6/5

2010-2012: (3.7 vs. 2.6)

## Advantages of small group learning:

1. More individual attention provided by faculty
2. More involvement of individual students
3. More efficient
4. Easier place for new faculty, fellows and residents to practice teaching
5. More readily mimics (in size) the most common kinds of group discussions that will happen in clinical practice



Plato's Academy by Michelangelo

Issues particularly  
important for faculty and  
administrators

## Argument 3: Preparing a TBL takes a major investment of faculty time.

TBL takes skill and practice. It requires a greater level of sophistication and clarity than does picking out which powerpoint best illustrates course information” (Thompson et al., 2007)

Faculty expertise considered second most important factor for success of TBL (Thompson et al., 2007) requires initial and ongoing training at local and national level, mentoring from other colleagues. (Most important factor influencing TBL implementation is identified as buy-in.)

Requires strong integration of basic and clinical material. Complex questions need to be written.



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## Argument 4: Costs involved in providing resources are high.

Large and properly configured classroom,  
good sound-proofing

Support for: assigning groups,  
entering/calculating grades, provision of  
proper equipment



Plans for new TBL classrooms,  
Virginia Commonwealth  
University Medical Center



Stanford, Information  
Resources Technology  
Team Learning Classroom



# Keys to TBL success (Thompson)

1. Buy-in by students,  
faculty and  
administrators
2. Faculty expertise
3. Resources

## Concerns:

Is there sufficient evidence that TBL is a successful learning mode? There is good evidence that students do better on exams if the material was learned through TBLs. However, it is not clear if it is the active and group learning that matters or whether it is simply the more frequent testing.

One of Pitt's strengths is the diversity of modalities used for teaching. Should we spend the kind of resources needed for TBL when there are other teaching tools like web based modules that need our attention?