



# TEACHING MATTERS

newsletter

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Editor: Ken Craft

## Teaching Pairs: A Pilot Project with VPETC Members

Margaret Anne Smith

The Teaching Pairs Project pairs teaching colleagues for observation of and reflection on teaching. Each instructor commits to observing the other teach for one hour, and then the pair meets for one more hour for sharing of observations and reflections. (Total time commitment is 3 hours over the term.) The purpose is not to critique or evaluate the other, but rather to learn from a colleague’s teaching style and use the observation to reflect on one’s own teaching practice.

Thanks to money from the Bi-Campus Trust Fund (generously set up to sponsor and improve teaching and learning on both UNB campuses) I was fortunate to attend the annual conference of the Society for Teaching and Learning in Higher Education (STLHE) at Cape Breton University in June 2013. I went eager to learn and network, and hoping to find an idea for a short-term, relatively easy to implement project that offers good potential for 1) empowering and encouraging teachers and 2) increasing conversation about teaching on campus.

Of course, there is typically plenty of conversation about teaching-related chores, but we (myself and the Vice President’s Excellence in Teaching Committee) are looking to

Design: Deborah Eves

transcend the “I’m tired and I hate marking” kind of conversation—although there is always a place for the misery-loves-company approach to dialogue! And thanks to STLHE, we think we’ve landed on a project that requires a very small amount of time from each participating faculty member and will help foster reflective practice.

### Reflective practice

Used most often in the so-called helping professions and educational streams (nursing, counseling, etc.) reflective practice refers to “... a process of understanding and shaping your skills and abilities as you teach, not just assessing your performance at the end of an interaction” (Booth, 2011). Ideally, this is an on-going and regular part of our professional lives. However, once we’ve set the syllabus, teaching tends to be reactive rather than proactive. We react to the material, the students, the problems in front of us. Reflection requires more time than most of us have in the run of a day/week/term.

The idea of teaching pairs is that we observe what a colleague does and—rather than assessing how and what that colleague is doing—we use the experience as a mirror to reflect upon our own experience. For instance, if I observe a colleague arrive a few minutes early for class and chat with students, checking in to see how they are doing, I might reflect upon my own experience of rushing into class at the very last minute. Rather than assessing the other professor’s “chatting” as either helpful and informative or time-wasting and unprofessional, I use the opportunity to reflect on my own habits. Does rushing in make me focused? Or could I benefit from making myself available for conversation with students for five minutes before we formally begin?

### The usual options

There are other ways to incorporate self-reflection and peer-reflection into our regular teaching practice, but most require sustained discipline over a term and often a tremendous amount of work, on top of regular teaching duties. Dale Roach’s practice of keeping a teaching journal (highlighted in the fall 2012 issue of Teaching Matters) is one. Sharing on D2L with his class and some colleagues, Dale wrote notes at the end of every class and posted them: how did it go? what worked? what didn’t? what would I do differently next time, etc.? This is a huge time commitment and requires a great deal of vulnerability and transparency. Others have informal teacher-confidantes for discussion and support, but that only works for those who had time to build up a network of support. Professors like Sandra Bell and David Creelman are currently team-teaching, but again, sharing a course and teaching in front of each other is a big commitment and requires a great deal of cooperation. This isn’t always feasible.

Peer observation and evaluation offers another option to encourage reflective practice: you can ask me or another colleague to observe and evaluate your “performance” in the classroom. This can be helpful. However, it creates a lot of vulnerability and you might not entirely trust a stranger or person in authority (say, your department chair or a senior colleague) to do this, without making you desperately nervous.

### Why teaching pairs?

The advantages of teaching pairs should be fairly obvious by comparison. There is a minimal time com-

mitment (about 3 hours overall). There is no senior/junior relationship or expert/novice dynamic. The person observing is trying to learn something about his or her own teaching, not evaluate yours.

### Goals

- Enrich and improve teaching, and enhance student learning
- Eliminate the elements of judgment and evaluation that are often features of peer assessment
- Encourage self-reflection and self-evaluation as regular practices
- Remind ourselves what it is like to be a student
- Build community through observation, reflection, & discussion
- Cultivate respect, appreciation, gratitude for the work that we and our colleagues do.
- Foster openness, humility, vulnerability in our teaching community

### Feedback

Feedback from other universities and colleges using teaching pairs and squares (groups of four, rather than two) is overwhelmingly positive, suggesting these programs create a non-threatening social network of colleagues, expose instructors to new teaching methods, and set aside time for improving teaching.

### Pilot project

Members of the VPETC have formed seven teaching pairs this term. Immediate feedback suggests that the idea of being observed by a colleague is intimidating! However, the pairs have agreed that this is an idea with merit, and we have a certain level of familiarity with one another due to our committee work. We’ll reconvene at the end of term for an overall assessment. My own experience? I was able to observe a colleague teach a class that is markedly different from my own class (in terms of content, delivery, level of students) and it was a very positive experience. It’s a treat to sit in on a class like a student (with no prep and no assignments) and oddly enough, I found that being observed made me a bit more detached in my own self-assessment. Seen through more objective eyes than my own, I feel like I have a better sense of what I’m doing well and what I might try differently in the days ahead. I also feel an increased sense of “we’re in this together” which can only help our teaching and learning community as we move towards whatever challenges the future holds.

## Resources

- Brookfield, Stephen D. *Becoming a Critically Reflective Teacher*. San Francisco: Jossey-Bass, 1995.
- Brookfield, Stephen D. *The Skillful Teacher*. San Francisco: Jossey-Bass, 2006.
- King, Harriet and Margo Finn. "Conversations on Teaching: Teaching Pairs prove useful on many levels." *Emory Report*. October 27, 1997. Volume 50, No. 10. [http://www.emory.edu/EMORY\\_REPORT/erarchive/1997/October/erOctober.27/10\\_27\\_97Teaching.html](http://www.emory.edu/EMORY_REPORT/erarchive/1997/October/erOctober.27/10_27_97Teaching.html)
- Larrivee, B. "Transforming Teaching Practice: Becoming the Critically Reflective Teacher." *Reflective*

*Practice*. 1 (3), 293-307, 2000.

Schön, D. A. *The Reflective Practitioner: How Professionals Think in Action*. New York: Basic Books.,1983.

Teaching Squares Handbook, Stonehill College. <http://www.stonehill.edu/files/resources/participant-handbook-08-09.pdf>

## Feedback

<http://www.leeward.hawaii.edu/teachingsquares-benefits>

<http://tlc.apa.uoit.ca/programs/teaching-squares/>

<http://www.stonehill.edu/offices-services/ctl/programs/teaching-squares/>

# The Effectiveness of Team Based Learning in a Large Class

Lisa Best

The Team Based Learning (TBL) classroom includes four major components: (1) students work in instructor-assigned teams for an entire term; (2) students complete an individual and a team-based assessment at the beginning of each learning module to determine what material they understand and what they need to learn; (3) a significant part of the final mark is dependent upon their team work; and, (4) in-class application exercises force students to think critically about the information. After having success using Team Based Learning (TBL) in a small summer class, I decided to adopt the method in a large, required 4th year History of Psychology class. The course is capped at 80 students and, each term, the course has a waitlist and I accept students beyond the cap of the course. Because the students need a C in the class to graduate, many students are anxious about taking the class. During this term, the class was scheduled from 4:30 – 7:00pm on Monday evenings.

Using TBL in this class seemed, at best, daunting and, at worst, utterly impossible. At the same time, I really loved the idea that student knowledge would be tested before information was presented. This allowed me to structure my classes around information that students do not fully understand (rather than lecturing on material that they may or may not understand). On the first day of class, I introduced the course and learning objectives and explained the concept of TBL to students. I spent almost an hour discussing the format with the

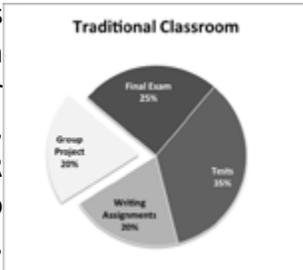
students and answered questions about the course, the format, and the requirements. The students were nervous but willing to try. During the second week of the term, students were randomly assigned to 11 teams of 7-8 students per team and worked in these stable teams over the course of the term. I had several requests for team changes (some valid, most invalid) but I stuck to the original team structure.

One of the most challenging parts of switching from a traditional classroom structure to TBL is determining how students will be evaluated. In all of my classes I want to design tests and assignments that are both fair and challenging. At the end of a term I want students to feel that they learned the material that was taught, that they were evaluated fairly, and that they had a positive learning experience. The purpose of this paper is twofold. First, I will highlight differences between my traditional and TBL assessment strategies. Second, I will discuss, from a student's point of view, why I feel that TBL was successful.

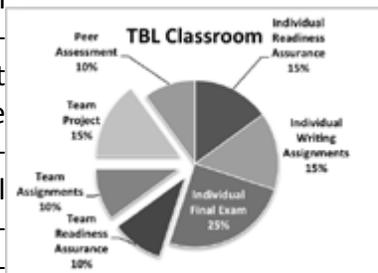
## Evaluation Scheme

In a TBL course, both individual and team progress is assessed and, although individual performance is weighted more heavily, team performance is worth a significant part of a student's final mark. In my lecture-based History of Psychology class, approximately

80% of student grades were based on individual performance on tests/exams and assignments. In most terms, students also worked in self-selected groups to complete an out-of-class assignment that was worth approximately 20% of their final mark. In this method, tests are scheduled AFTER lecture time is dedicated to a topic and, in large classes, class discussion is minimal. Although I tried to include some small group discussion, the majority of class time was dedicated to lecture.



For professors, the idea of “flipping” the classroom is challenging. We feel that we have so much information to teach students and it is often difficult to accept that there are other ways that students will get the information that they need. For me, it was difficult to let go of my expectations of how students could learn and to trust that TBL would work for such a large, required class. One of the most difficult aspects of designing a TBL classroom is the shift in evaluation schemes. The chart shows my TBL grade breakdown and, I decided that 55% of the final mark would be dedicated to traditional individual assessments. These tests and assignments were essentially identical to those used in previous years. The biggest change to the individual assessment was that instead of completing two term tests, students completed 6 individual quizzes, one at the beginning of each learning module. The format of the writing assignments and final exam were identical to that used in previous years.



The biggest change in my evaluation scheme was the fact that 35% of the final mark was dedicated to team tests and assignments. After completing each individual quiz, students worked in their team to complete an identical team quiz. The individual and team quizzes were generally completed in an hour and teams were given the opportunity to appeal poorly designed questions. After a short break, I delivered a short lecture that focused on some of the more difficult material in the module and ended with the introduction of a team assignment. In addition to helping students master the

material, the team assignments were designed to help the team members learn to work with their team members. Classes ended with a short, 10-minute discussion of the team assignment. The team project was worth 15% of the final mark and was completed outside of class. Because I wanted the teams to become cohesive before they were expected to work together outside of class, I introduced the project approximately halfway through the term with the project due at the end of the term. The final evaluation was the peer assessment. In the peer assessment, students were asked to evaluate each of their team members and highlight their strengths and weaknesses. To prevent students from assigning all team members the same mark, a set of guidelines was developed for students to use. Following a strategy outlined on the TBL website, each student assigned an average of 10 marks to the other members of their team BUT one student had to be assigned at least 12 marks, which meant that another student would have to be assigned a mark lower than 10. The marks were then scaled so that the team member with the highest mark got full marks on the peer assessment.

## Success of Students

Initially, most students were skeptical of taking a required course using an unfamiliar format. Many students simply wanted the structure of the course to remain the same. I explained (several times) that I was switching the format because I believed that students would have a greater chance of succeeding if TBL was adopted. Most students did not believe me (at the time) and after the course was completed, one of the first things that I did was examine my class marks so that I could determine if TBL did increase student success. To judge success, I compared three aspects of student marks (1) the overall class average, (2) the average on the final exam, and, (3) the number of students who attained a grade that was lower than 60 (a C).

Typically, the class average in History of Psychology is the equivalent of a B- (approximately 70%). I was initially concerned that TBL would lead to gross grade inflation. I was shocked when I compared my TBL marks with final marks from 2010 and 2012 – in each term, the course average was 73% EXACTLY. Furthermore, my final exam in History of Psychology is cumulative and includes all material covered over the course of the term. In 2010 and 2012, the class averages on the final exam were 58% and 63% respectively. In 2013, my TBL final exam average was 64%. Although these compari-

sons are only based on limited data, it appears that my initial concerns about grade inflation were unfounded.

Because students must attain a C to graduate, I am always concerned about students who are close to the cut-off. In 2010 and 2012, I had a total of 18 students who received a grade of less than a C; 9 of those students earned a D (between 50 and 59). For each of these students, I had a difficult decision to make – either bump their mark to a C or have them repeat the course. These students are often devastated with the prospect of not graduating and ask (after the fact) if they can do extra credit assignments. At this point in the term, my hands are essentially tied and I explain that, as stated on the course outline handed out at the beginning of the term, there are no supplementary exams at UNB. At the end of my first TBL term, I was really happy to note that only 3 students received less than a C. When I looked at their term work

it was very easy to determine that these students did not deserve to pass as they each had not handed in at least one individual assignment and, therefore, did not meet the requirements to pass the course.

In general, I was really happy with my first experience using TBL in a large class. I was pleasantly surprised that the class performed at least as well as previous classes and far fewer students received grades less than a C. Although some may argue that the better students “pulled” the weaker students through the course, the fact that both the overall marks and the final exam marks were similar to those of previous years suggests that this is not the case. To me, one of the most positive aspects of the course was the fact that, by the end of the course, 10 of the 11 teams were high performing teams and, overall, students reported that the TBL experience was positive.

## **Excavations at Picnic Beach: Team-Based Learning in Geol 3102, Introduction to Geoarchaeology**

Lucy Wilson

In the spring of 2012, just as I was beginning to plan a new course for Winter 2013 (Geol 3102: Introduction to Geoarchaeology), I attended the Effective Teaching Institute on Team-Based Learning (TBL) organized by the VPETC. The first and most influential thing I learned there was to start planning a course by asking “What do I want the students to be able to DO when they’ve finished this course?” I was also impressed by the idea of giving them meaningful activities with some sort of coherence over the duration of the course. Geol 3102 presents an overview of the use of geological methods to answer archaeological problems. I was already planning to use the weekly 3-hour lab sessions for practical applications. I had also been thinking that it would be fun to get the students to dig something up. Given that, when I asked myself “What do I want them to be able to DO?” I realised that I wanted them to be able to cope in an informed way with the sorts of problems that they would be likely to encounter on any dig. After the TBL workshop, my vague ideas of maybe a

week or two pretending to dig something, as part of a series of unconnected lab activities, turned into a term-long excavation and analysis of a “real” (fake) site.

The course was offered in the winter, when the ground is hard and it’s cold out. No-one wants to dig outdoors in January. Therefore in the summer of 2012 I got twenty wooden boxes made, each 30 x 30 cm and about 20 cm deep, labelled them as if they were part of an archaeological grid, and filled them with collected sediments and materials in order to make a “site” with two layers of deposits and a number of different features. The lower layer had, for instance, a hearth area extending over several boxes, and a flint-knapping area with flakes, debris and so on. The upper layer represented a more recent time period, and had a couple of broken ceramic pots, one of which contained sunflower seeds, along with a shell midden, bones, and assorted stone tools. I also made up a rather cartoonish geological map of the area. Since the site was suppos-

edly located in the area labelled "Picnic Beach" on that map, the class decided to call it the Picnic Beach site.

The site was divided into three sections, and the 17 students were divided into three teams. Each student was assigned one box, which he or she was responsible to excavate. Since there were more boxes than students, two teams also had a team box (for which they were jointly responsible), and I was allowed to excavate one box in the third section, for my own fun - I mean, to demonstrate techniques. Each individual student had to excavate his or her box, and provide filled-in excavation forms, a box report and two cross-sections (profiles) showing the locations of their finds. The team members worked together to analyse the materials and sediments that they found in their section of the site. Lectures, readings, and Readiness Assurance Tests (RATs) were used to make sure the teams were able to handle each aspect of the excavation and analysis before they got to it. For instance, I tantalised them for a couple of weeks before I even let them touch their boxes, because "Excavation is Destruction" - there are no do-overs in archaeology. Also, they needed to know how to handle potential samples for various dating techniques before they excavated them, so that the samples would not be contaminated. Eventually each team decided on 6 or 7 samples to send to the "lab" (i.e., me, calling myself "WilsonLabs - For All Your Chronometric Needs!") to get (made-up) dates. If the samples were not suitable, or were not handled properly, they got bad or no dates. We also had labs on sediment analysis; bones, shells and botanicals; ceramics; stone tools as tools and as rocks, etc. For instance, they were given rock samples from various potential raw material sources marked on their map, and they determined which sources were used to make the tools in their assemblages, and in which proportions.

The members of each team then worked together to come up with an interpretation of what the material in their boxes could tell them. Near the end of the term, each team presented its findings and interpretations to the other teams, and then the entire class worked together to prepare a report on the overall site. That report was presented to an audience including the class members and a dozen or so invited guests. It covered topics including the environment of

formation of the different layers within the site, and how that changed through time; sea level change; human use of faunal, floral and geologic resources; and the cultural level and activities of the people who used the site: a full archaeological report. The invited guests were very interested and gave excellent feedback to the students - some told me they had had to remind themselves that this was not a real site!

The course grade for each student had four components: individual work (excavation, individual RATs, and a final exam in April), team work (group RATs, labs, team presentation), the final site interpretation by the whole class, and peer evaluation of each team member by the others. All team members got the same mark on team tests and reports, and everyone in the class got the same mark on the class site interpretation. Peer evaluation was conducted during the final exam, and allowed team members to differentiate between the different levels of performance of their colleagues. All the students did well, with all marks in the B to A range.

Overall, yes, it was a lot of work, for me and for the students. But it was FUN! I enjoyed putting together the puzzle of the site, and they enjoyed teasing it apart and figuring out what was going on. They treated it as if it was a real site, with a coherent history, and even thought of things that I had not, such as seeing if they could figure out where the high tide mark on the beach might have been at the time of formation of the upper occupation layer. Many times during the term I thought "Oh dear, I've given them way too much to do!", but they never complained - they just took it in stride. Many of them spent many extra hours in the lab, excavating the hearth or reconstructing a smashed ceramic pot (which I'll admit was very large and very smashed). It may be that none of them will ever be a geoarchaeologist, but all of them now have a real understanding of what goes on in archaeology. I look forward to teaching this course again in a couple of years. I will tweak some things, and probably make up a different back story, just for fun (and smash a smaller pot), but I will keep the essential structure of basing the entire course on the excavation of the site. The level of engagement that the students had with the material makes all the work worthwhile.

# Top Hat - You Should Give It the Old College Try!

Barb Dowding

Have you ever felt the semester would never end? The semester is dragging on and you take a hopeful glance at your planner, confirming your worst fears; there are still 5 weeks left. You and your students are never going to make it out of this semester in one piece. That was the feeling I had in winter 2013, when I desperately started looking for something to infuse life back into my course. Considering the class, first year biology, with about 190 students (I had lost a few along the way) I needed to do something differently before they all dropped out. There are only so many relevant and impactful TED talks I can share with my class before the students discover they can just look that up themselves! As luck would have it, when I was on my way to replenish my depleted blood-caffeine levels I happened to run into our Instructional Technology person, Mary Astorino. Mary asked if I might be interested in using Top Hat for my class as part of a pilot project for the campus. First thought: This could be just what I need for my class!! Second thought: This could be a piece of technology I may not be able to figure out. Most importantly, if I take this on only to foul up, all those students are going to have proof I am technologically challenged and I'll be dead in the water. Never one to back down from a challenge that may end in disaster, I swallowed my fear and told Mary I was game.

Top Hat is a student response engagement system. And, yes, it uses technology to assist in engaging students. It is like a mix of D2L and clicker technology. So, why not just continue to use D2L and clickers and keep on trucking....well, Top Hat is the best of both worlds tied into one!! First of all, like clicker questions, Top Hat permits instructors to design and create questions that test the students' level of understanding during class with instant feedback. What makes Top Hat different from clicker technology is the lack of clickers – instead, students use their own mobile device to respond to the questions. Second, Top Hat is like D2L, because the questions are graded immediately and waiting in a spreadsheet for the instructor to use!

How do you get started with Top Hat? That was the easy part. First, I was reassured this pilot would be of no extra cost to the students in my class. If this was going to

cost them even a penny, I would be toast. Secondly, I was given the website to register my course at Top Hat. I could do that. Thirdly, I was going to have to be shown how to use Top Hat. That last part made me nervous.

The showing part was much easier than I could have imagined. It took one hour, by phone and using their web site, to teach me the basics. I was guided through the various types of questions, how to create them, how to insert pictures into questions, and most importantly how the students would answer these questions by texting the answer. After my own successful text answer, I knew without a doubt that the students would find this type of class activity simple and seamless.

I know you're dying to know if I crashed and burned the first time I used it in class.....wait and see. I told the students that I was going to try a new teaching technique during the next class that involved technology, and I asked them to bring their phones and laptops. Encouraging them to bring their electronic devices had them a little stumped.

I sent the class a copy of the pdf on how to register for our course through the Top Hat website. Having the students register before the lecture would save time in case I ran into technical difficulties. I will admit I went to the lecture theatre in the wee hours of the morning to test out the Top Hat system, armed with my lecture on a USB stick and an iPhone. I pulled up the lecture and at the appropriate slides I answered the Top Hat questions as a student. Now I was ready to try it out for real with my students!

The next class was full of hustle and bustle, and we got down to business immediately discussing the ever-riveting process of photosynthesis. Once we had discussed NADPH and ATP production, I pulled up the first Top Hat question. We read through the question as a class, turned on the timer (I'm sure they would take all class to answer if you'd let them), and waited for the students to answer. When it was acknowledged on screen that the first response was received, I was so excited. It started a chain reaction and the responses started coming in fast and furious. Once the

question was closed, the time had run out, I was able to show the results as a graph. There was a mixture of correct and incorrect responses so we discussed each of the choices. Little by little with each topic throughout the lecture, my confidence in using Top Hat grew.

Feedback after a few classes: they loved it! Well, the ones that let me know did!

The participation from students was higher than I was initially expecting. This was possibly because this method was a non-judgemental way to see if they understood the material, and an easy method for reviewing and reinforcing understanding of the concepts. I also gave bonus marks if they used the system. I felt it was well worth the bonus marks because using Top Hat enabled the students to see the topics I thought were important and it served as a mini review within the lecture or during the next class. I also used Top Hat for untimed homework questions. Again, it gave

the students another means to review material and expose them repeatedly to my thinking and the style of questions I could ask. Students ate that stuff up!!

I realize as teachers, the primary goal in class should not be competing with Netflix for student engagement. I hope that using Top Hat during my classes will cause a few students to pause their show, text the answer to the questions, and maybe participate in the post-question discussion. Maybe. Top Hat is fun, easy to use, and another great item for that tool kit that can never be too full!

Top Hat's potential is impressive. It can be used in many different ways for various course outcomes and its representatives are very knowledgeable and always available to help. The campus now has a site licence, and the chance to take advantage of this opportunity could not be easier. You do not have to feel guilty about additional fees for the students. It is FREE. Enough said. You should try it!



**Holiday Wishes  
from the Teaching and  
Learning Centre  
and the members of the  
Vice-President's  
Excellence in Teaching  
Committee**