



Assessment of a Teaching Tool Group Handout – November 9th, 2016

Please spend ~10 minutes each on questions 1, 2 and 3

1. Think about a teaching tool(s) that you have implemented in your classroom, or utilized as a learner in the classroom (eg: Lecture Capture, iClickers, group problem solving).

Teaching tools:

-Lecture capture (video)	-group problem solving	-group research projects
-iClickers	-jig-saw groups	-lead discussions
-Poll Everywhere App	-case studies	-Top Hat
-student engagement systems	-PyMOL structure Viral Infectivity Factor (Vif)	-Kahoot

a) Was this teaching tool successful? If so, have you concluded this based on anecdotal evidence, or rigorous evaluation of the tool? Briefly share the ways you have collected such evidence.

- You don't need to be an expert to use teaching technology, but evaluation must be a commitment, not a side project
- Success may be dependent on who your class is – what level are they at?
- You must reiterate to class why you are doing this; share with them the value of it, and the evidence of this value. This may help with student resistance and student buy-in
- How do you determine what is anecdotal vs systematic?
- Anecdotal evaluation → “they hated it”; student feedback; general statement as an instructor of “I think they did better than other years”
- Rigorous evaluation → experimental data/systematic design, being conscious of sample size. Control group is necessary.
- Before setting out to evaluate a tool, you must have a specific goal in mind of what you hope students will achieve in response to this teaching tool

b) Is anecdotal evidence to support a teaching tool sufficient? Please explain.

- anecdotal is OK, may be worth pursuing..
- if not good enough, need it to be longer term in order to elicit a deeper paradigm shift
- anecdotal evidence could include looking at students' marks, and comparing their performance between years

2. Smith et al. (2016) utilized a quasi-experimental protocol to compare students in the Spring 2014 class which used Avida-ED to the class which did not.

a) Do you think it is acceptable to intentionally expose one class section to a new teaching tool and not the other? Please explain.

- Well, you're not hurting the control group.. but you are giving the treatment group an advantage..
- May run into issues with Ethics (REB)
- What about courses that have multiple sections and multiple instructors? These instructors may be using different teaching tools – could you argue that students are advantaged/disadvantaged if they are exposed to one instructor and not the other then?

b) What are the advantages and disadvantages of this study design in the classroom?

- Pro: rigorous data, control group
- Con: ethics and “fairness”, systematic biases, differences in student groups



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- 3. Smith et al. (2016) utilized one assessment item to measure student understanding in both the Spring and Fall classes.**
- a) Do you think one assessment item is sufficient to evaluate students' understanding in response to a teaching tool? Please explain.

There was not enough time left for this Q to be answered in the group, but consider your own ideas and thoughts regarding Q3

- b) What other student outcomes could (and should) be assessed to measure a teaching tool's effectiveness (such as Avida-ED, or your own teaching tool)?