**Main takeaway points (ILOs)**

Because the session may turn out to be active / interactive, despite our overwhelming expository urges, I'm just going to tell you what I wish you would get from it; or more likely, construct afterwards. In other words, the Intended Learning Objectives (ILOs).
Or in still other words: here is the exam with all the questions, plus answer sketches.

0. We'll refer to Active Learning as "AL" to show that it is a sloppy term with no precise or agreed meaning, and doesn't deserve much respect.

1. What does "AL" mean? (Answer: see "qu" 0 above)

2. Should you have AL learning activities in your lecture? Why?
   To answer this overview question, you have to have attended the whole course including the bits that got left out at the end.

3. Which "AL"s? Are they all equally good e.g. a change of pace? E.g. get everyone to walk round the room to keep awake.
   No: some have been demonstrated to be better than others w.r.t. learning gains.

4. Do they need technology?
   No – but *sometimes* the newish techno saves a surprising and critical amount of scarce class time.

5. Should you have /use AL in all your lectures at every level?
   (This is left as an exercise for the individual.)
   But writing out private ILOs for the activity should help you decide each time.

6. Whose names (from the educational literature) should you cite to show off, especially to ignorant computer scientists, and show that CCSE is (at least superficially) literate and tremendously interdisciplinary? [Dewey, Gee, Chi]

7. And why?
   Dewey: Founder of one brand of constructivism. Founder of one brand of "reflection".
   Regarded "authentic" activities (respected in the non-educational world) as fundamental to education.
   Regarded reflection as essential to educational learning; where "reflection" ≈ "arousing thought", not mere action, not mere listening.
   Gee: Formulated 36 principles of learning, and no.1 is the "Active, critical learning principle" which he discusses in terms of physics teaching.
   Chi: Tackled the issue that different kinds of AL learning designs have different sizes of learning gains; based on decades of careful experiments. (Also: has shown that the best structured peer interaction is about as good as the best personal tutoring by a teacher.)

8. We should perhaps always write down (privately) the exact ILOs for using any specific AL design.

9. Furthermore, we should divide the ILOs into two groups, or even more:
   a. Gains to individual learning.
   b. Gains that are strictly social: community building, or knowledge relative to that community.

   c. Gains for the teacher in understanding this set of learners better — constructivism requires a teacher to understand the relevant prior understandings of the learners.
   d. Connect each learner to an individual personal interest within the topic (mass personalised adaptation of the material to individual learners).