

Stuff I need to read

Inclusivity

Inclusion and Diversity, meeting the needs of all students (don't have book, copy available with PCUTL)

Technology enhanced education

- 2012 Survey of Technology enhanced learning for higher education in the uk (Have pdf)
- Enhancing university teaching, lessons from research into award winning teachers (Have bought kindle book)
- Enhancing learning and teaching in higher education in Wales (Have pdf)
- Transforming higher education through technology-enhanced learning (Have pdf)
- Using socially constructed technology to enhance learning in higher education (Have pdf)
- *Technology in the classroom: Burning the bridges to the gaps in gender-biased education?* Karyn M. Plumm 2008 Computers and Education *Don't have must try and get.*

Flipped classrooms

- The effects of the classroom flip on the learning environment: a comparison of learning activity in a traditional classroom and a flip classroom that used an intelligent tutoring system (have pdf)
- The Efficacy of Podcasting Technology in Instructional Delivery. (have pdf)
- The inverted classroom in a large enrolment introductory physics course: a case study.

Neat paper that present evidence for the flipped classroom approach on a cohort of 200 odd students.

On the teaching methodology: The emphasis was very much on participatory discussion with the class, rather than instructor presentation to the class.

Great evidence against giving out notes in advance:

An often-heard comment relating to provision of material to students (usually lecture notes) in advance of class sessions is “If you give them the lecture notes, they might not or won’t turn up”. We gave students not just lecture notes, but in effect the entire course content in advance of class sessions: it might reasonably be asked did we not have empty lecture theatres by week 5? In fact, we did not see any evidence of a significant decline in lecture attendance ¹, which we were able to “measure” by observing a relatively constant number of total clicker votes per question (across 140 individual clicker question episodes) as function of a time period spanning 11 weeks of the course. There was a slight decline towards the final week of teaching in the semester, perhaps partly explained by the effects of a long teaching semester taking its toll and the looming shadow of degree examinations 2 weeks after the course concludes. This teaching methodology, therefore, provides evidence against the “no notes in advance” argument as a technique to maintain student attendance and engagement.

Feedback was collected showing that students preferred this teaching approach (see plots in paper).

Perhaps more significant than the additional workload is the mental shift that is required to accept and embrace an unstructured, contingent lecture experience in which the lecturer is no longer in complete control of.

- Anything by Steve Rutherford? (Could reference his slides)

Social media

- Dabbagh and Kitsantas 2012 (don’t have pdf, copy available with PCUTL)
- A Characterization of Social Networks for Effective Communication and Collaboration in Computing Education (have pdf)

Pedagogy

General

- An introduction to threshold concepts (Have pdf)
- The behaviourist approach : the basics (Have pdf) and Chapter 4 of Asia University Educational Psychology Book (Have pdf)
- Chapter 5 of Asia University Educational Psychology Book (Have pdf)

- CARL ROGERS AND HUMANISTIC EDUCATION (Have pdf)
- Communities of practice thing (Have pdf)
- Situated Learning (Lave and Wenger) (Some pages of book on google books)
- Approaches to Learning: A Guide for Educators (Have purchased, on it's way)
- Problem based learning: case studies, experience and practice. (I think this is on my bookshelf)

IBL/Student lead

When good teaching leads to bad results: The disasters of well taught Mathematics courses This paper discusses a case study on a particular mathematics course:

- It was a success based on 'classical' criteria
- It was a failure according to threshold concepts

In early research the subject was seen as a minor variable to teaching (see Doyle 1978). Furthermore:

Learning was operationally defined as performance on achievement tests – tests which, as we shall see below, may fail in significant ways to measure subject matter understanding.

More recent work (Brown and Burton 1978, Helms and Novak 1985, Romberg and Carpenter (1985)) show the importance of subject specific teaching methodologies.

In elementary arithmetic, for example, Brown and Burton (1978) developed a diagnostic test that could predict, about 50% of the time, the incorrect answers that a particular student would obtain to a subtraction problem – before they student worked the problem.

Awesome quote:

The predominant model of current instruction is based on what Romberg and Carpenter (1985) call the absorption theory of learning. 'The traditional classroom focuses on competition, management and group aptitudes; the mathematics taught is assumed to be a fixed body of knowledge, and it is taught under the assumption that

learners absorb what has been covered'. According to this view the good teacher is the one who has ten different ways to say the same thing; the student is sure to 'get it' sooner or later. However the misconceptions literature indicates that the students may well have 'gotten' something else – and that what the student as gotten may be resistant to change.

- Various blog posts
- Discussion with +Dana Ernst and +Theron Hitchman?
- All the papers from Dana...
- Evaluation of the IBL Mathematics Project : Student and Instructor Outcomes of Inquiry-Based Learning in College Mathematics (Have pdf)