Winter CTC Meeting Notes

02/28/15
By David Ross

Attendees:

- Ka Yee Yeung (UWT CSS)
- Dondi (Olympic)
- Amelia (Olympic)
- Hong (UWT Research)
- Ravi Gandham (South Seattle)
- George Mobus (UWT CES)
- Molly Watson (SSCC Student)
- Tory Overman (SSCC Student)
- David Ross (UWT Institute Advisor)
- Beth Jeffrey (UWT Institute Advisor)
- Menaka Abraham (UWT CSS/CES)
- David Schuessler (UWT CSS)
- Matthew Alden (UWT CSS)
- Donald Chinn (UWT CSS)
- Eric Bassen (TCC)
- Josh Archer (HCC)
- Ken M. (CPTC)
- Mike Henschel (SPSCC)
- Richard Hoagland (SPSCC)

Project Based Learning – George Mobus

- George discussed his current teaching practices and research in education which focus on project based learning vs. the traditional lecture/exam type of setup.
- Overview
    - More in class exercises vs. homework
    - Team effort, collaborative approach
    - Great response from students
    - More likely to learn materials
    - Retaining knowledge longer
    - Students energize each other
    - Focus on life-long learning and learning to learn
    - Emphasizes discovery and curiosity

    - Emphasizes empowerment: people can solve a problem without needing too much support or answers handed to them
- Process
    - Eliminate formal lectures and only give introductions to material (15-30 min max)
    - Rely on textbooks less
    - Allow failures
    - Coach vs. teach
    - Explain the problem, then offer resources and monitor progress
    - Break assignments into small blocks (weekly), but each block is a phase of a large project
        - Each phase = new skills
- Hurdles
    - Course matrix is too rigid
    - Avoiding the "teach everything" syndrome
    - Degree programs emphasize narrow approaches
    - Avoid "teach to the test" syndrome
    - Teachers having guilt for not lecturing enough
    - Hovering vs. intervening (the latter is the answer)
    - Having trust that students are natural learners, failure is OK and that they all learn at different paces
- Q&A
    - Q: How do we keep students moving together as a team in future courses? A: Faculty must coordinate focus on a cohort model and obtain peer feedback. It's a social phenomenon so we must enforce this.
    - Q: How do we implement this online? A: No idea. Must push social learning and have to avoid the mass educating of students and thus it may not work in this situation. Perhaps force "group" work such as using Google Hangouts, Meetups and linking students living in similar areas.
    - Q: How do we grade these kinds of projects? A: Require the solutions to the given problem(s), but *how* they are solved is up to the students.

Enrolling, Engaging and retaining CS students – South Seattle Community College (Ravi Gandham, Tori Overman, Molly Watson)

- Very diverse students at SSC – 60% are underrepresented. Needed some cohesion, outreach, retention
- 50% first generation students
- Recent changes made (which helped):
    - Java to Python (CSC 110 which is a CS-0 type course and comes prior to 142)
        - Small discussion was brought up about changes to CS curriculum to now include Python, C and an intro (CS-0) course
    - More in class exercises
    - Woven in STEM (emphasize the need)

    - Creation of a C++ group
    - CS tutors for the department
    - College visits to remove the fear of 4-year universities
    - Hour of code (weekly)
    - Attending Grace Hopper
    - Emphasize a CS club
    - Grants for student engagement offered through Google
- Women in STEM and clubs
    - Club is best for supporting minorities
    - Get students to sign up!
        - Promoted officers, including a PR officer
            - Ran a website, Facebook and other social media pages
        - Reach out to faculty for student names of qualified students
        - Create by-laws to empower the club members
    - Offer guest lectures, workshops, field trips, conferences etc.
    - High school outreach where the club does the speaking/representing for the college
    - Include other departments—important to emphasize the relationships amongst other disciplines
    - Hour of code – coding club
        - Demonstrate that coding can be for anyone and is open to all (not just the "tech geeks")
        - Using code.org as a startup
        - Sold as "come to learn code" via flyers etc.
        - Open to exploration and conversation for all, including staff
- Next steps (starting in fall)
    - Create a big group project (year-long) and force collaboration. Ex. Build a software platform to support student exchange of supplies, books etc.
- Challenges
    - Finding facilities and resources
    - Tech challenges – students not having own laptops etc.
    - Legally – a faculty member must be present at all times
    - Bringing new participants up to speed when they start later in the quarter or year
    - Selling as a science and not as an "applied" program
    - Getting students to participate vs. just showing up

Peer Assessment – Donald Chinn

- Overview
    - Students evaluating each other's work—reading drafts of other students' work, grading them and trading projects to "break" their code.
    - Gives students higher order skills
    - Gives ownership of learning

    - Student realizes that others aren't always the experts
    - Lessens a sense of ultimate authority (the instructor) or a sense of a room full of "smarter than I am" students
    - More appropriate for large classes
    - Assignments of reviewers are random then the reviews themselves are reviewed (reviewers critique their own after critiquing others)
- The critique process
    - Description of approach to the solution
    - Open discussion on day critiques are due
    - Instructor grades both solutions *and* the critiques
    - Groups are switch up halfway through quarter (pair up based on mid-term scores to emphasize variety)
    - Instructor provides guidance on how to properly critique work
- Other effects
    - Students pay more attention to details
    - Promotes discussions
    - See work from different points of view
- Challenges
    - Make clear the intent for the peer assessment and critique process
    - Make clear the expectations
    - Guide discussions and teach a respect of others' work
    - Avoiding the silence of pointing out what's wrong and any "freeloaders"