

**OPAS Standards, Courses and Curricula (SCC)
Meeting # 3 Notes - Tuesday, July 25, 2006**

Attendees: Brad Naas (Alder Creek MS), Jeremy Tucker (OPAS/OUS), Sean Gallagher (Hermiston HS), Walt Mayberry (Industry), Ken Cone (OUS), Ron Jantzi (Chemeketa CC), Jo Oshiro (OPAS/OUS)

Summary:

- The minutes of the June 21, 2006 were approved as written.
- Ongoing brainstorming for what we as committee members would like to see as a result of this committee, including possible revision of the mission, will continue on the [wiki](#).
- Jeremy reported on his summaries of state standards, to be posted with supporting materials on the wiki. Massachusetts standards are an exemplar of clarity and engineering content. The committee's consensus: standards are necessary but not sufficient without an overarching vision.
- Ken reported on his survey of websites describing inquiry-based methods and curricula, to be posted on the wiki. Materials from Massachusetts were again exemplary.
- Other major points of discussion:
 - Assessments are a major issue
 - How to assess problem-solving skills
 - Diagnostic/formative assessments (to monitor and adjust ongoing student/teacher behavior/learning/teaching)
 - Summative assessments (used to “grade” student, teacher, building performance)
 - Getting past “teaching to the test”.
 - Integration is an issue – the generation of separate sets of standards creates more problems for classroom teachers than it solves.
- Action Items:
 - All – use the wiki. Call or email Jo, Ken, or Jeremy if you have problems.
 - OPAS Staff – try to test the assertion “most engineering students come from the East”.
 - Sean – contact Bill Becker and Steve Day to see how the SCC Committee can best interact with and/or support their work on the [Standards Assessment and Content Panel for Science](#) (SACPS).
 - **Next meeting:** Wednesday, August 16, 10-12

Details:

A motion was made and passed to approve the minutes for the meeting of June 21, 2006 as written.

Sean: The amount of material recorded in the minutes show the need for more focus and direction. What would you like to see as a participating committee member?

Brainstorm Results:

Jo: Perhaps we should refine the mission to more accurately reflect the committee's current thinking and focus.

All:

- K12 Focus
- Standards and Assessment
- Pre-requisite skills for students to enter directly into 100 and 200 level engineering courses (questions on Conley's work for ETIC grant)
- Produce a recommendation
- Target:
 - Standards Assessment and Content Panel for Science (SACPS)
 - Bill Becker
 - Steve Day
- Recommend all schools offer multiple AP or IB academic opportunities
- Technology (?) Literacy – vocab limitations
- Integration of Engineering concepts into current standards
- “Applied Science”?
- Focus on Science, Math, & Technology Standards
- Align with [SB342B](#) – standard outcomes for math
- Learning through application of concepts
- Clearly communicated standards and outcomes
- Clearly stated vision

Report on Engineering College Admission Requirements (Jo)

The [summary](#) showed some variation in requirements/recommendations but not much; Purdue's footnotes about which courses could be considered to fill a requirement were interesting.

Report on Standards Summaries (Jeremy)

Jeremy has summarized 9 states' science standards, chosen because of their respective ratings in a report by the Fordham institute. Oregon received an 'F' in this report.

OPAS staff will post on the wiki:

- The summary document distributed at this meeting
- The 9 state summaries
- The 9 states' standards (these are large pdf files)
- The Fordham report

Jeremy: Oregon standards probably received an ‘F’ because they are not clear or meaningful; they are poorly organized with no clear target and no clear connection to what should happen in the classroom, and some information is left out.

Walt: How does what is actually taught relate to the standards?

Jeremy: Teacher and Building try to be really clear on what needs to be taught. There may or may not be a textbook; but standards are not clear. Assessments are supposed to ensure that teaching to the standard happens.

Walt: OK, that demonstrates that standards are not sufficient.

Jeremy: Clear standards help not only in the classroom and the building, but at district level with textbook reps and textbook adoption.

Brad: Standards provide accountability, but are not useful without the vision.

Sean: We haven’t really had a vision since Vera Katz championed the Education for the 21st century (CIM/CAM) in the early 90’s. That kind of fell apart and nothing has replaced it.

Sean – what is Oregon’s vision?

Brad – maybe we can offer a vision and standards?

Ron – Career Education and most federal funding are now following the “Pathways” model which is supposed to connect K12 to CC to university seamlessly.

Geographical Distribution of Engineers:

Can we verify the assertion “most engineering students are from back east”?

Sean has anecdotal evidence that the workforce back east is about 20 years ahead of the west.

Ron: There are pockets where that is true, such as around Springfield Massachusetts and Research Triangle Park, but places in the Southeast may be even worse off.

Walt: Creating a place like Research Triangle Park takes vision and a long time. Research Triangle Park took 50 years to become what it is now, because of the vision of the governor in the 1950s. (Walt is from RTP).

Sean – did ONAMI head honcho jump ship?

Report on Inquiry-based learning (Ken)

Ken has reviewed several websites offering various forms of support for inquiry-based learning, mostly commercial packages of curricula, materials and professional development. He found a paper on “Understanding by Design” by McTighe and Seif, brought to our attention at the last meeting, especially relevant.

OPAS staff will post on the wiki:

- Ken’s summary
- The “Understanding by Design” paper
- An article on Issaquah school district’s adoption of inquiry-based methods.

Sean: Were you seeing engineering addressed within inquiry? Or not?

Ken: Very little engineering. Massachusetts was the exception – the company is called MITS (Museum Institute for Teaching Science). A few were adopting “inquiry-based” more as jargon than as a method. A few correlated material to individual state standards.

Walt: My impression is that OES (Oregon Episcopal School) does a really good job at inquiry based education, and that the methodology has spread out from the science area into other areas, in particular social studies.

Ron: [High Tech High](#) is also a good example of seeing inquiry-based methodology done well.

Sean recently had a conversation with ODE and asserts that the state historically has a problem with assessing problem solving. One of the criticisms of the state process is there are so many students out there can’t figure it out in the allotted time. The current state process calls them 0s. (Some of those kids tested will wake up in the middle of the night with the right answer). In his experience, after two weeks working with a student in a classroom, a teacher can give a fairly accurate reading of a student’s problem-solving ability.

How do we get past teaching to the test?

Walt: AP & IB are assessed by tests, but are apparently having some success at preparing students for college.

Sean: Teachers come away from AP & IB very impressed with clear goals, assessments. A diagnostic assessment piece is being built into the current AP program – feedback in time to help the student and the teacher to monitor and adjust, not just know how you did when it is all over.

Walt: The teacher needs the calibration as well as the students to adjust his/her focus and methods.

Discussion on Goals/ Framework

Postponed for the results of the brainstorming on desired results.

ACT Article on Workforce Readiness

Documented, quantitative evidence that a “college-ready” level of reading and math should be achieved by most students. ACT is an organization and a test similar to the College Board’s SAT. The ACT is more focused on workforce readiness; the SAT is more focused on academic aptitude and a little bit of IQ testing.

Ron: Chemeketa has preprogram requirements for reading and math, tested by ACT. If a student cannot meet them, the student is not admitted to the program. Reading a modern automotive manual is not that much different than reading a college history text

How do we interface with Bill & Steve? Sean will contact them –

Next Agenda:

Sean – Bill & Steve

Mission Statement

Update on Jeremy’s work

Next meeting: Wednesday, August 16, 10-12