

## OPAS Prepare Workgroup #5 – Detailed Notes

### Tuesday, June 19, 2007 – Capital Center and Teleconference

**Attendees:** Don Kirkwood (N. Salem), Walt Mayberry (activist), Dick Knight (Saturday Academy, PSU), Bruce Schafer (OUS), Jo Oshiro (OPAS/OUS), Michal Young (UO), Bill Becker (PSU)

*Italics indicate activity and information since the meeting.*

### Agenda

<b>Meeting Objective</b>	Continue our discussion of specific programs that we would like to support and methods for doing so.
3:30 - 3:35	Welcome and Introductions
3:35 - 3:55	<p>1. <b>Project Lead the Way Strategy:</b> Review prior discussion of Project Lead the Way. The first section of the attached document "<a href="#">OPAS Funding Analysis</a>" contains the recommendations regarding PLTW that I prepared as a summary of our last meeting. Please look over this so that we can critique and edit it.</p> <ul style="list-style-type: none"> <li>• Report of related discussion and subsequent events regarding PLTW (Dick).</li> </ul>
3:55 - 4:05	<p>2. <b>Strategy for Targeting and Supporting Programs:</b> In responding to our previous Prepare meeting, Tom Thompson and Don Domes engaged in the exchange of e-mails contained in the attached "<a href="#">Re: Comments on the last steering committee meeting</a>". This contained a suggestion from Tom that seemed particularly in line with our recent discussions. Specifically he makes a recommendation that we consider:</p> <ul style="list-style-type: none"> <li>• a) supporting programs with demonstrated success,</li> <li>• b) incubating promising projects, and</li> <li>• c) develop a system that helps identify and close gaps.</li> </ul> <p>Is this a model we would like to adopt?</p>
4:05 - 4:20	<p>3. <b>OPAS Funding Recommendations:</b> OPAS has solicited input on what goals and criteria should drive the use of the funds they expect to have available for funding education programs this year. The second section of the "<a href="#">OPAS Funding Analysis</a>" contains recommendations that I submitted following our last meeting. Please look over this so that we can critique and edit it.</p> <ul style="list-style-type: none"> <li>• "<a href="#">OPAS Funding Analysis All 061307</a>" is the rollup of all workgroups' comments</li> </ul>
4:20 - 4:45	<p>4. <b>Superquest Introduction and Discussion:</b> It was noted in our discussion of PLTW that it does not directly address computer science. However, Superquest, which is sponsored by the local Techstart Education Foundation (formerly Software Association of Oregon Foundation) and heavily supported by Don Domes among others, is directly targeted at this area. OPAS has supported this program in the past. Is this something that Prepare would like to assist, and if so, what is the best way to do so?</p> <ul style="list-style-type: none"> <li>• Short video: <a href="http://www.sao.org/sao_foundation/superquest.php">http://www.sao.org/sao_foundation/superquest.php</a></li> <li>• Short description: <a href="http://www.techstart.org/superquest.html">http://www.techstart.org/superquest.html</a></li> </ul>
4:45 - 4:55	<p>5 - <b>Open Items:</b> Review status of other open items from previous Prepare meetings</p> <ul style="list-style-type: none"> <li>• (a) Status of new math and science requirements and potential for OPAS to influence curriculum and standards</li> <li>• (b) Understand level of preparation and success at key transition points in the engineering and applied science path: <ul style="list-style-type: none"> <li>○ high school to higher education (university and community college)</li> <li>○ community college to university,</li> <li>○ lower to upper division (sophomore to junior) university.</li> </ul> </li> </ul>
4:55 - 5:00	<p>Next Meeting Tuesday July 17, 2007</p> <ul style="list-style-type: none"> <li>• Items for the Agenda?</li> </ul>

## Summary as posted and emailed June 21, 2007

Four workgroup members and three OPAS Staff attended the most recent meeting, including OPAS Succeed member and OUS Summer Volunteer Intern Don Kirkwood, who accepted a staff assignment to the Prepare Workgroup. Steve Day submitted email comments prior to the meeting. Given the light turnout, decisions made at the meeting will be sent out for email ratification by the entire workgroup.

The workgroup continued its discussion of Project Lead The Way as a viable part of the solution to meeting OPAS and ETIC goals:

- We keep hearing that costs are an issue.
- These classes can serve both college-prep top-tier students and more vocationally-minded CTE students. Experience shows that these groups' interactions can be complementary and synergistic. There are concerns with marketing to both groups, especially the college-bound.
  - PLTW should **not replace** biology, chemistry, or physics for the college-bound.
  - More rigorous approach to science may challenge the more traditional CTE students.
- Technology-rich classes need to count towards graduation requirements both to generate student demand and ensure adequately trained teachers. Bill thinks OPAS should lead this policy change.
- PLTW is quite prescriptive, which may be an issue in implementing the middle school program.
- PLTW's lack of Computer Science and Materials Science is a concern, especially with stated goals of increasing engineering enrollment at OSU, PSU, and OIT.
  - PLTW has done industry-funded course development for Aeronautical and Biomedical Engineering courses.
- Nationally normed tests and evaluation structures are a big plus.

Dick previously summarized the thinking of the workgroup for the Steering Committee's Funding Analysis exercise; that summary was ratified by the workgroup. The rollup of all workgroups' input was shared. Scalability remains a concern, as does the funding of pilot programs and the administrative need to fill 30 seats per class session.

- Tim Brower of OIT, PLTW Affiliate Director for Oregon, is applying for a Math Science Partnership Program (MSPP Title IIb NSF) grant, and would like a letter of endorsement from OPAS; Dick will draft one for email approval by the workgroup.
- PSU's Center for Science Education is also applying for an MSPP grant which would use PLTW as a case study for its Teacher Scholars. Bill Becker will furnish more information on the grant to Dick, as he would also like a letter of endorsement. If appropriate, Dick will draft one for email approval by the workgroup.

The workgroup discussed leveraging the SuperQuest Teacher Training program to address the CS problem, looking for a CS analog to PLTW. The group will research this further, and try to identify other alternatives that may belong in the solution space. Walt will draft some questions to give structure to some targeted interviews conducted by Don Kirkwood and available staff and

workgroup members. Bruce mentioned the possibility of merging the ETIC CS Task Force into OPAS.

By convention, the next meeting is scheduled for Tuesday, July 17, 3:30 – 5:00.

### **Action Items as posted and emailed June 21, 2007**

- All: please say yea or nay to the decisions made during today's meeting:
  - Draft an endorsement letter for Brower's PLTW grant.
  - Pending more information, draft an endorsement letter for Becker's grant.
  - Pursue a solution to the CS problem analogous to PLTW: an existing structure, a track record, an evaluation structure, some kind of national or regional norming.
- Jo/Dick: List the pros and cons of implementing PLTW, including costs.
- Bill: more MSPP proposal info to Dick, please copy Jo.
- Bill: a more detailed articulation of what recommendations you want OPAS to make regarding "making technology-rich classes count" to Jo and/or the workgroup.
- Dick: draft an endorsement letter for Brower/PLTW; when Bill's proposal info in, draft that endorsement letter.
- Jo/Dick/Don: vehicle and structure for talking to CS people, separate from the regular Prepare Workgroup meeting, using Walt's questions as a starting point.
- Walt: Draft the Four Questions as discussed in the meeting for opening a conversation with CS people.
- Jo/Dick: continue gathering information on retention and transition programs and summarize these for the Workgroup.
- All: please say yea or nay to the decisions made during today's meeting:
  - Draft an endorsement letter for Brower's PLTW grant.
  - Pending more information, draft an endorsement letter for Becker's grant.
  - Pursue a solution to the CS problem analogous to PLTW: an existing structure, a track record, an evaluation structure, some kind of national or regional norming.

### **Additional Points of Information, Discussion, and Resources**

Given the light turnout today, any decisions will have to be sent out to the whole committee for ratification by email.

Due to high foot traffic through the office, Jo may have missed some points in her notes.

**Project Lead the Way:** We reviewed the PLTW discussion from the last meeting, May 15.

- Things have happened since then:
  - Steering Committee Meeting
  - Email exchanges discussing CS, PLTW, CTE.
  - Tim Brower (OIT/PLTW) going to work on more tight relationship with schools.
  - Dick met with Ellen Lyon – the actual PLTW class had a mix of types: one group was college-bound classical type, the other the CTE type probably aiming at CC. These two groups turned out to be highly complementary; the two groups reinforced each other.
    - Don's experience reinforces this.
- Steve Day's notes ...

- Where does PLTW actually fit in the academic spectrum? Neither a traditional CTE class nor do they fit in the traditional bio-chem-phys spectrum.
- Some PLTW modules very rigorous in the amount of hard science that is embedded; may for CTE kids be a big step up.
- For traditional college-prep students, this is an enrichment class which should not substitute for traditional bio-chem-physics. Don thinks that this will happen innately, e.g. the college-bound will not short bio-chem-physics because they know the requirements of colleges.
- We should look to Sean as a representative of our prospective customers. He is now Superintendent in Lake County, was recently principal at Hermiston HS.
- PLTW is pretty prescriptive; that can be stifling for teachers and sometimes students. There may be more issues with this at MS. Being prescriptive makes you an easy target.
- PLTW rigor, comparing to IB and AP. Ellen says PLTW testing is pretty rigorous. *Jo notes that PLTW is nationally normed, and can students performing at a specified level may qualify for college credit, comparable to AP.*
- PLTW must have educational outcomes that are college-prep.
  - Bruce: do we have enough understanding of PLTW to say how many PLTW alums go to college, to CC, etc?
    - *“Data [second year, 20 states, 75 schools, 3,700 students, 900 seniors, 1600 reported grades] ... are consistent and show that PLTW students attend college at high rates, study engineering at very high rates, and are well prepared for college level work.”*  
[http://www.pltw.org/downloads/AnnualReportPublicRelease\\_v106.pdf](http://www.pltw.org/downloads/AnnualReportPublicRelease_v106.pdf)
  - Bill: PLTW is made for engineers by engineers, and that is not the culture of 4 year university.
- If we are successful in creating the high end pre-professional experience in the HS (whether or not it is PLTW), then we still have a marketing problem:
  - The 30-kid filling the seats problem – classes need a customer base, which requires either a requirement or some marketing. Walt says in a smaller high school, you’ll never have 30 kids in these programs. For administrators, it is much easier to offer a band or chorus class with 50-70 kids for one instructor rather than a pilot CTE class requiring a smaller ratio.
  - Don: CTE demands more keeping up the material and equipment PLUS the PR to fill the seats – not all the teachers have this energy.
  - The administrator problem: cheaper to buy one basketball than teach 10 kids gamemaker.
  - Dick: If the principal makes it impossible for students to take certain combos of classes, then we will see none of these kids. (Marketing to administration). Also marketing to the college-bound kids themselves, avoiding the CTE vs. academic stigma.
- Don: take the scalability issue down one factor. Change college pre-service classes to jazz teachers about these programs. The new people have the energy and the focus.
  - Becker: The challenge of teacher education is gaining access to teacher licensure. The courses have to count for something. Hard to populate a

- curriculum with elective courses. They want a job. They're going to have a job if they have a teaching license and they teach a course that counts.
- Need to recast the rules, the tradition, so that technology-rich courses such as PLTW count towards graduation. PSU's Center for Science Education (CSE) is interested in working with PLTW to show that students are doing critical thinking, yes it does prepare for careers. Still need somebody to run the politics and now it is time to do that – Bill sees that as a good role for OPAS or ETIC.
    - Bill wants OPAS to lead recommendations (get a better articulation from him).
    - The window will close soon.
  - **Action Item:** Make a list of the problems and obstacles to implementing a project like this. And benefits. Jo and Dick to do these two lists from last time and this time notes.
    - **Schedule room**
    - **Problem solving skills**
    - **Ignores CS**
    - **Ignores UO – CS and MSI**
    - **Does Oregon PLTW mission need restating?**
    - **What is national PLTW really good at (stated goal is sending more kids to engineering school.)**
    - **Increase curriculum – get Intel to fund the 3<sup>rd</sup> year specific CS class**

### **OPAS Workgroup Feedback Worksheet: Funding Analysis**

See the handout at

[http://opas.ous.edu/Workgroups2007/OPAS\\_Funding\\_Analysis\\_All\\_061307.pdf](http://opas.ous.edu/Workgroups2007/OPAS_Funding_Analysis_All_061307.pdf).

Dick: 2 opportunities to find some funds for PLTW have shown up. Math Science Partnerships Program Title IIB NCLB managed out of ODE; \$300K for 2 years. Tim's partners: Glencoe, Lebanon, N. Salem. Tim has had some of this money before.

- Bill: a 2<sup>nd</sup> MSPP grant: partnership between Hillsboro and Beaverton SD, builds off existing relationship. NSF Noyce Teacher Scholars grant. Establish a cohort of 30 teachers who will get a graduate degree and teaching credential. People who use the scholarship of teaching and learning in their practice. We are looking at various ways at extending our partnership ... working with Pacific University. Doing research of the kind that will inform practice. RFP extremely prescriptive of data-driven programming. "If we're going to give you half a million dollars, tell us how is that going to raise your test scores." Their premise is that teachers are not empowered to get that data, make teams that can do that. Teachers are best equipped. Noyce – cofounder of Intel – endowed NSF administer the grants/ scholarships.
- Dick: Tim's MSPP proposal pretty clearly aimed at moving PLTW forward, we should support it if we can. Tim said yesterday he has built enough capacity down at OIT, his limitation for the next couple of years is getting students to enroll at STIs. I'd like us to see us support that. He hasn't seen Bill's proposal, but what he would like to see in Bill's use of PLTW as a case study
  - Effectiveness of the program
  - How to absorb the program into a school

- Support for PLTW as a fully worthy lab course counting for a third science
- **Action Item:** Proposal: Both Bill and Tim are asking for letters of endorsement for their proposals. Dick offers to draft and submit for email review to the whole committee.
- **Bill** – get Dick more info on details of the proposal you want Prepare to endorse.

### **SuperQuest:**

In looking at PLTW, we were looking for existing structure to leverage. The analog for CS is probably SuperQuest. Not a prescriptive program. Lot of creativity, has had some significant impact. Should we ask a couple of the SQ experts to come in and give us a briefing?

- Worth doing?
  - BWS: multiheaded beast – depending on expert, we'll get a lot of different info. AP CS, IT piece, robotics, gamemaker.
  - BWS: Is there some chunk of CS that we want PLTW to adopt? Wants to get it in 9 or 10 ...
  - Walt: What is the appropriate CS curriculum? He'd want them to have PLTW intro to engineering class 1<sup>st</sup>. Big debate when he was teaching.
  - Walt: Computer science is too important to be left to computer scientists.
  - Bruce: All kids benefit from Computer Science/Technical literacy improvements.
  - Dick – Key question: We want a CS analog to the PLTW solution, we are not sure what the flavor of that analog is.
  - Don – at N Salem, they are making an academy to combine CS and PLTW as mutual feeders. A combined honors geometry and CS.
  - Walt: SQ was a bunch of random answers, none of which answered any of my questions. A hodgepodge of really useful things, but not a system –
  - Bruce: maybe that's OPAS value add to SQ – make them offer a whole system and teach them to think strategically.
  - Action Item: How many people do we need to have a good picture of SuperQuest? Don Domes, Don Kirkwood, Terrel Smith, someone from the foundation.
- Any other candidate?
  - WALT: Draft the question(s)
    - How would you structure a high school curricula to give a running start at a 4 year degree in CS
    - What would you do to seriously motivate a student to consider a 4 year CS degree?
    - What would you do to elevate the general level of CS literacy?
    - How would you systematize any and all of the above to make this extensible and adoptable?
  - Michal: National CSTA, Kris Stevenson (female) Bruce has found her available for phone meetings. Bruce has contact info for her; she's on the ETIC CS task force.
  - Postgame: Should ETIC CS Taskforce merge with OPAS?

**Next Meeting:** Tuesday, July 17, 2007 3:30 – 5:00 at the Capital Center and via teleconference.