



OPAS Prepare Workgroup

Meeting Record #9 – October 30, 2007

Attendees: Dick Knight (Saturday Academy), Jo Oshiro (OPAS/OUS), Michal Young (UO), Tom Thompson (ODE), Jay Bockelman (OIT), Steve Day (Health and Science High School)

Italics indicate activity since the meeting.

Agenda

Meeting Objective	Continue our discussion of specific programs that we would like to support and methods for doing so.
3:30 - 3:35	Welcome and Introductions <ul style="list-style-type: none"> Today's agenda on slides - ppt or pdf
	ETIC/OPAS RFP grants- \$390 K - update <ul style="list-style-type: none"> Review panel slate approved by ETIC 10/27. 41 Notices of Interest; 26 proposals received; many at or near \$100K; 1 DQ'd; overall a better field Scored by rubric; rubric categories correspond to point categories in original RFP 8 reviewers; 3 current or former ETIC; 3 current or former OPAS active committee/workgroup members; 2 ethnic minority; 2 women; 3 higher ed; 4 industry; 1 research; 1 K-12; 1 HS; 1 non-profit Jo acting as staff support and research This and previous funding rounds have rarely provided 100% of the original ask in order to get maximum use out of allowed funds. Entire \$390K allocated We are actively soliciting process critiques for future improvement; we are providing limited, general insight into why some proposals did not make the cut
	2. Review of OPAS Prepare Strategy: PLTW and SuperQuest focus <ul style="list-style-type: none"> Oregon CTE update
	3. Project Lead the Way update and questions <ul style="list-style-type: none"> Overview of PLTW HS and MS programs <ul style="list-style-type: none"> positive key findings, except gender mix <ul style="list-style-type: none"> Comments by Bob Dorn of PLTW High Schools That Work - Research Brief: Project Lead the Way Works: A New Type of Career and Technical Programs, September 2007 PLTW assessment and conclusions: p 67 and following <ul style="list-style-type: none"> PLTW Program Evaluation 2006-07 October PLTW workshop <ul style="list-style-type: none"> discussion topic: relationship of pre-engineering and early

	<p>college credit</p> <ul style="list-style-type: none"> • Steering Committee Questions <ul style="list-style-type: none"> ○ PLTW effectiveness in choosing engineering careers ○ PLTW effectiveness with under-represented groups <ul style="list-style-type: none"> ▪ PLTW meets or exceeds most objectives: <ul style="list-style-type: none"> ▪ need to work on low-SES, African-American, and women; in general, doing better than college engineering programs ▪ is female participation centered on biomedical classes?
	<p>4. PLTW State Leader role and OPAS Prepare Workgroup role</p> <ul style="list-style-type: none"> • email Tim Brower/ Dick Knight (aka PLTW1/2) <ul style="list-style-type: none"> ○ What fits now? ○ What might fit in a "STEM Center"? • Matching PLTW teachers with industry assistance <ul style="list-style-type: none"> ○ email Rob Tinnell/ Jo Oshiro
	<p>5. SuperQuest Outlook and needs: OPAS role</p> <ul style="list-style-type: none"> • How to expand impact • Meeting funding needs
-----	<p>Other PLTW information distributed for this meeting, not for discussion</p> <ul style="list-style-type: none"> ○ Engineering Academy of S Texas PLTW program ○ PLTW at Galt Union HS, Galt, California <ul style="list-style-type: none"> ▪ Summary of PLTW analysis ▪ Analysis of Student Achievement and Programs, 2007 (includes non-PLTW programs)
----	<p>Other information for distribution but not discussion</p> <ul style="list-style-type: none"> • Brainstorming Possible Legislative Concepts <ul style="list-style-type: none"> ○ Steering Committee Worksession October 23 <ul style="list-style-type: none"> ▪ Summary Document October 30 • Other workgroup status summaries
-----	<p>Other activity</p> <ul style="list-style-type: none"> • Don Kirkwood's teacher/administrative interviews: activity has slowed as we have tried to connect with PPS and Lake Oswego administrators; additional insight from talking to grant proposers has been forwarded to Don.
4:55 - 5:00	<p>6. Next Meeting Tuesday November 20, 2007 (Thanksgiving week)</p> <ul style="list-style-type: none"> • Items for the Agenda?

Summary as Emailed and Posted November 28, 2007

Six members of the workgroup attended the October 30 meeting.

The slate of approved ETIC grant awards was reviewed. The quality of the field was greatly improved over the previous biennium's; some discussion of alternative and additional funding for programs was discussed. Approved grants include three Project Lead The Way (PLTW) implementations in high schools around the state; an engineering component for the SMILE program, an ESD-hosted, kit-based, graduate student mentor-driven elementary school science program in Hermiston; and a series of field trips to local area manufacturers for high school and

community college students centered at PCC and Mt. Hood CC. All \$390,000 for the biennium was assigned.

Data from ODE's "2006-07 Oregon CTE at a Glance" was reviewed. CTE students continue to do significantly better than students as a whole in Oregon benchmark tests.

Dick was the keynote speaker at the October PLTW conference for high school counselors and administrators; he met Judith d'Amico, PLTW's Director for State and Corporate Relations, responsible for the Western Region. Judith was very complimentary of Tim and his carefully balanced rollout of the program. She also provided insight into how new PLTW modules are developed. Dick and Jo will pursue the possibility of a more extended visit by Judith to Oregon to meet with additional interested parties such as Dave Vernier of Vernier Software and Technology.

Additional PLTW discussion:

- A lot of schools are capable of offering IE (Introduction to Engineering) and POE (Principles of Engineering) classes. After that, equipment becomes more expensive.
- PLTW is doing better than the universities at recruitment and retention of students to the engineering disciplines. They have not found the magic wand for women, and group of students/schools who are both African American and low SES.
- PLTW catalog materials show few girls, and those girls are doing fun stuff while the boys are doing serious stuff. (*An email was sent to Tim to raise a flag on this.*)
- The Biomedical Sciences track should be a great attractor for PLTW as a whole and for women. Steve Day's idea is to find a way to blur the line between Biomedical Sciences and Engineering.
- The (potential) college credit piece is important for several reasons
 - Validating to the student, "Yeah, I can do this."
 - An indicator of rigor
 - Getting students to sign up, especially for elective courses
- We discussed how the OPAS Initiative and ODE could help Tim cover the PLTW State Leader Role. Dick and Tom have had conversations with Tim, and believe that what is most important to him is knowing what kind of help he can ask for from whom. The current idea is captured in the table ["Analysis of the PLTW State Leader Role in Oregon."](#) It should be noted that the "STEM Center" in the table is hypothetical; it's one of several possible approaches under discussion in the Steering Committee.

SuperQuest: we need a vehicle for working with them on a breakout strategy. Their proposal to ETIC for identifying high school CS teachers in Oregon was not funded. What is needed?

- Data to document the effectiveness of CS programs
- Proposal strategy – what and how?
 - Connect to a university as part of the BPO component of an NSF grant.
- A meeting of the key players:
 - Chris Stephenson, National CSTA
 - A university representative
 - ETIC CS Task Force
 - Techstart Education Foundation
 - Other key players?

- Get more teachers involved.

The next meeting has been rescheduled to Tuesday December 4, so as to follow the Steering Committee meeting.

Action Items as Emailed and Posted on November 27, 2007

Jo:

- Rough outline of 2 days of meeting between Judith d'Amico of PLTW
 - Agreement in principle from Bruce (*done*)
 - Contacts with PCC – Bill Manley and who else?(*email 11/28/07*)
 - Heads up to Tim Brower (*done*)
 - Contact Judith
- Talk with Dick about a possible Succeed/Prepare/PLTW meeting on girl recruitment/retention?
- Email out McMinnville Pathways link (*done*)
<http://www.msdk12.or.us/schools/mhs/Curriculum%20Guide/main.html>

Dick:

- Is the increase in college-going by PLTW students a significant number for the effort involved?
- Is credit being given at other universities for PLTW?
- Connect with Tim when you think the chart is ready for him.
- Talk with Jo and Eda about a possible Succeed/Prepare/PLTW meeting on girl recruitment/retention?

Additional Points of Information or Discussion

Review of the ETIC/OPAS Grants:

- Lemelson may be interested in the North Wasco/ Columbia Gorge Community College/ Project Lead the Way proposal not funded by ETIC because of economic development and emerging technology (wind power) hooks. (*Jo sent an exploratory email to our Lemelson Foundation member.*)

Project Lead The Way (PLTW).

- Judith d'Amico is well supported within the PLTW infrastructure to deliver data; can travel to come see us; we are in her territory.
- PLTW can be influenced to develop new curricular modules if someone brings money to the table. An agricultural education group has contacted PLTW to develop curricula because of PLTW's engine for generating new curriculum: lessons, materials, assessments, professional development as a package.
- Judith was very complimentary of Tim. Failures of PLTW implementation do not balance the development of master teachers with the number of schools participating.
- PLTW components slide (list of possible classes) – what can you reasonably expect schools to implement? A reasonable expectation would be a moderate number of classes in most schools.
- Recap of PLTW Evaluation 2006-07: PLTW in general is doing better than the universities at recruitment, retention, servicing underrepresented populations but hasn't found the magic

attractor for women. African-Americans' lesser achievement may be driven by lesser SES schools. PLTW and CTE students graduate and pursue postsecondary education at greater rates; some evidence PLTW students do slightly better. Chicken and egg: PLTW and college-bound. PLTW students are preferentially likely to choose engineering-type disciplines in college.

- Do we need some pre-PLTW attractor for girls? Do the fields not interest women? Is it because they are offered by the shop teachers? Are there presentation issues?
- Do we want to focus on quality of outcome or quality of opportunity?
- Steve Day expects that he will be able to successfully recruit girls via the Biomedical pathway, especially if the line between the PLTW Biomedical Sciences and Engineering can be blurred.
- Is it worth it if only 10% more go on to college?
- PLTW State Leader role: Tim would like some help. What can we offer him?
 - ODE can not endorse “brands” of programs, only recommend criteria or set standards for types of programs, without opening itself to liability. A STEM center, should one be created, might be able to do so whether or not it uses public funds.
 - Bring a teacher to talk to a new prospect because teachers have a credibility with each other the rest of us just don't have.
 - The table:

Analysis of the PLTW State Leader Role in Oregon

Functions	Tim/ OIT/ PLTW	OPAS	ODE	STEM Center
Attend State Leader meetings and provide advice to improve PLTW	1 ^o	help		User group model?
Promote PLTW and its strategic goals through presentations and distribution of informational materials	1 ^o	Proactive help		?
Align state courses and/or standards, as needed with the PLTW curriculum (possibly incorporate this info into the Summer Training Institute; possibly lay credit by proficiency groundwork)	1 ^o		Technical assistance	Repository?
Enlist new schools into the PLTW Network and guide them through the implementation process, including registration, counselor conferences, fund sources, data collection and school agreement approval	1 ^o	Help with Fund sources – connections to industry groups, endorsements	Technical assistance	Administrative help; event space
Advise schools already in the PLTW Network concerning counselor conferences, Summer Training Institutes, ongoing professional development, equipment/software/curriculum, student recognition and certification of schools	1 ^o	Help proactively; student recognition letters, event speakers	Technical assistance	Event venues, student recognition, information repository
Facilitate discussions on potential funding mechanisms for PLTW implementation in the state	1 ^o	Help proactively, endorsements, presentation	Technical assistance; notification of funding	Funder relationships

		partners	opportunities (e.g., MSP)	
Work with higher education institutions to establish and maintain a working relationship with OIT Affiliate Director to further PLTW growth in the state	1 ^o	Help proactively	Technical assistance	Help proactively
Work with schools to communicate to colleges and universities the quality of PLTW students (analogous to AP and IB)	1 ^o	Help proactively	Technical assistance	Help
Build relationships with other state or national programs that will support PLTW's mission	1 ^o	Help proactively	Technical assistance	Help proactively

Pre-engineering classes and college credit discussion:

- Dick was surprised at the PLTW workshop at the amount of interest in understanding how much college credit you can get.
- Tom: credit is a nice option, if it can work. But the reality is there are a lot of good things coming out of PLTW other than college credit.
- Steve: college credit is part of the identity we want the kids to see. It's icing if it ends up being their major. Helps student see yeah, I can get this done.
- Jay: Financial credit may be especially important to first-generation students. It is important for students to experience that they have performed at that level.
- Michal: HS teachers adamant about the AP programming courses counting, because otherwise the kids won't sign up even though once you get to the university, the total number of credits doesn't matter, only the completion of required credits. Whether AP courses meet credit often varies by departments which have various ways to validate the score and performance.
- Steve: For calculus, we recommend that they take AP calculus even if they take it again when they get to college. If I had to make a choice, I'd recommend they get credit for Writing 121 which actually exempts them from taking a freshman class.

Jay brought the McMinnville High School Pathways for Computer Science up as an extremely well defined example of the use of the Pathways model.