



# OPAS Prepare Workgroup PLTW Worksession

## Meeting Record

#11 January 22-23, 2008

**Attending** for some portion of the day(s): Tom Thompson (ODE), Cary Sneider (PSU/Boston MOS), Judy D'Amico (PLTW), Tim Brower (OIT/PLTW), Mike Ellison (PSU), Jo Oshiro (OPAS), Jeff Wheeler (ACE Academy), Bill Becker (PSU), Walt Mayberry (OPAS), Jill Tucker (Lemelson), Jay Bockelman (OIT), Steffen Moller (Clackamas CC), Don Heer (OSU), Gerry Recktenwald (PSU), Ellen Lyon (Hillsboro SD), Morgan Anderson (Intel), Deb Mumm-Hill (FIRST), Ken Cone (OUS), Lynn Wilson-Dean (ODE), Shera Felde (OHSU), Patty Petersen (OHSU).

<b>Tuesday, January 22</b>	<b>Objective →</b>	<ul style="list-style-type: none"> <li>• <b>Orientation to PLTW &amp; Oregon stakeholders</b></li> <li>• <b>Orientation to current college credit situation</b></li> <li>• <b>Identify next steps re: PLTW &amp; College Credit</b></li> </ul>
<b>Time</b>	<b>Participants</b>	<b>Objective</b>
9:30 – 10:00	Judy, Jo Dick, Tom, Tim	The OPAS Initiative – who we are; The Oregon landscape & activities – PLTW, ETIC, Pathways Key people & organizations
10:00 – 11:00	Judy, Tom, Jo, Dick, Bruce, Tim	Perkins IV – Oregon implementation Oregon Graduation Requirements
11:15 – 12:00	Judy, Dick, Gerry Recktenwald	What are PSU's issues, barriers, concerns with articulating with PLTW and with offering college credit for PLTW? Tim's alternative avenues of recognition
11:15 – 12:00	Tim, Tom	Debrief for Action Plan – review areas where ODE can be of technical assistance
12:00 – 2:00 Box lunch	Don Heer, OSU Gerry Recktenwald, PSU Morgan Anderson, Intel Jill Tucker, Lemelson Lynn Wilson-Dean, ODE Cary Sneider, PSU Bill Becker, PSU Jay Bockelman, OIT Jeff Wheeler, ACE Acad. Walt Mayberry, OPAS Ellen Lyon Deb Mumm-Hill	Welcome – the OPAS Initiative (Dick) Overview of PLTW <ul style="list-style-type: none"> <li>• What it is (Judy)</li> <li>• What distinguishes it from other engineering programs (Judy)               <ul style="list-style-type: none"> <li>◦ Home-grown (and we have some EXCELLENT ones here in Oregon)</li> </ul> </li> <li>• Roles of affiliate, business, civic groups, school districts, schools (Judy)</li> <li>• What other states, regions are doing (Judy)</li> <li>• Recap current activity in Oregon (Tom, Jo, Tim, Dick) –</li> </ul>
2:15 – 3:15	Judy, HS2 Staff, Lynn Wilson - Dean, (ODE), Tim	Presentation on the new biomedical curriculum being piloted by PLTW (Judy)

## Summary of Tuesday Morning Worksessions

Dick Knight, Tim Brower, and Tom Thompson provided a free-flowing orientation to the Oregon Pre-Engineering and Applied Sciences Initiative (OPAS), the Oregon educational landscape, and the current status of Project Lead the Way (PLTW) in Oregon. Briefly:

- **OPAS** funds derive from the legislature via the Oregon University System (OUS) Chancellor's Office and the recommendations of the Engineering and Technology Industry Council (ETIC). OPAS is largely a volunteer effort aimed at planning, coordinating efforts, and seeding programs and ideas that have shown promise – getting results, being cost-effective, showing scalability. ETIC's driving metric is more engineering and applied science graduates from OUS institutions.
  - OPAS home page - <http://opas.ous.edu///>.
  - OUS home page - <http://www.ous.edu/>.
- **Oregon's education system is very fragmented**, but there is a history of cooperation.
  - Community Colleges and K12 operate under the Oregon State Board of Education (OSBE - <http://www.ode.state.or.us/search/results/?id=144>). The Oregon Department of Education (ODE - <http://www.ode.state.or.us/>) is under the purview of OSBE and the elected Superintendent of Public Education.
    - Community Colleges (CC) are under the Department for Community Colleges and Workforce Development, also known as Worksource Oregon (CCWD - <http://www.worksourceoregon.org/index.php>)
    - The CCs contract ODE to do some of the work of running the CC system.
    - ODE can set standards and design statewide assessments. They cannot designate curriculum or textbooks.
  - OUS operates under the Oregon State Board of Higher Education (OSBHE - [http://www.ous.edu/state\\_board/](http://www.ous.edu/state_board/)).
  - OSBE and OSBHE, collectively called the "Joint Boards" meet periodically to discuss issues and concerns. They are also linked via the new Unified Education Enterprise Board - <http://www.ous.edu/about/uee/>.
  - Oregon's K12 legislative allocation is about \$6.25 Billion (2007-2009).
    - About 225 high schools.
    - Federal Perkins funding about \$14 Million per year.
    - There are additional School Improvement funds - ~\$300 Million with a menu of approved uses.
  - Oregon's CC legislative allocation is about \$511 Million (2007 - 2009).
  - OUS' legislative allocation is about \$896.2 Million (2007-2009).
  - The last legislature mandated a study on Career and Technical Education (CTE) for submission to the next legislature. The contract has been awarded to MPR Associates, and will cover 7 states including Washington and California. The final report is due this summer.
  - Privacy constraints on use of data on students.
- **Pathways:** Oregon has done some pathways work, particularly at the CC level. There are a plethora of articulation agreements, some more useful than others. ODE has used the national Career Clusters work in generating standards and skill sets. There are 17 national, generic career clusters; Oregon has 22, having brought back the industry needs piece for local industries.

- **Perkins, CTE, New Graduation Requirements, and Essential Skills** – Tom’s slides – “CTE Considerations in Oregon Relevant to OPAS”  
[http://opas.ous.edu/PLTW\\_Advocacy/Summary\\_CTE\\_in\\_Oregon\\_Jan08.pdf](http://opas.ous.edu/PLTW_Advocacy/Summary_CTE_in_Oregon_Jan08.pdf)
  - CTE has a mindset of a sequence, not a sampling, of courses.
  - Largest growth area in CTE is pre-engineering.
  - PLTW can meet many of the elements required by Perkins IV
    - Valid, reliable, end of program assessment
    - Student plan and profile
    - Student leadership opportunities
    - Guidance and Counseling
    - Aimed at family-wage careers, not just jobs or classes
    - Work needs to be done to map how many PLTW classes a student must take before he can qualify for credit by proficiency for math and/or science requirements, if possible.
    - IB or AP could be part of a Perkins/CTE program (e.g., AP CS).
  - Credit by Proficiency – defining credits other than by seat time.
    - No longer optional, still under development – but there is a model and a path.
    - Students demonstrate proficiency and adequate content mastery for credit.
    - “Core” academics must be signed off by a highly qualified teacher.
    - We need to be careful in taking advantage of the system’s flexibility; if seen as abuse, it will be stomped on.
  - Oregon’s new science content standards will have an engineering design component.
- **Project Lead The Way (PLTW)**
  - Judy D’Amico, Director for State and Corporate Relations, Western Region, Project Lead the Way.
    - Many years in secondary education, internship experiences for kids.
    - What hooked her on PLTW was project-, problem-, activity-based learning.
    - She came late to the STEM disciplines.
    - Instrumental in Sacramento area’s Linking Education and Economic Development (LEED) - <http://www.lead.org/>.
  - In Oregon, Tim Brower has been running an excellent program with a state-wide emphasis; OPAS helps as we can; he keeps us from running away with the bit:
    - Tim Brower’s slides on status/ roles - [http://opas.ous.edu//PLTW\\_Advocacy/Brower\\_PLTW\\_Roles\\_Status\\_Oregon\\_012208.pdf](http://opas.ous.edu//PLTW_Advocacy/Brower_PLTW_Roles_Status_Oregon_012208.pdf)
    - 1 pager on PLTW in Oregon - [http://opas.ous.edu//PLTW\\_Advocacy/PLTW\\_Brief\\_012208.pdf](http://opas.ous.edu//PLTW_Advocacy/PLTW_Brief_012208.pdf)
    - Under construction as of February 2008, [PLTW Advocacy webpage](#)
  - Nationally:
    - PLTW in all 50 states now.
    - Some universities use Summer Training Institute as pre-service training.
    - Many states use Perkins funds for PLTW.
    - In other states, Intel supports PLTW via cash to school districts.

Additional small-group worksessions were reported as useful and productive.

**Attendees for the Prepare Workgroup Meeting #11:** Dick Knight, Walt Mayberry, Tom Thompson, Ellen Lyon, Tim Brower, Jay Bockelman, Steffen Moller, Jo Oshiro, Judy D’Amico.

<b>Meeting Objective</b>	<ol style="list-style-type: none"> <li>Explore and ID options for PLTW articulation with CC and universities</li> <li>Provide guidance and approval for proposals to include in the OPAS investment model.</li> </ol>
3:30 - 3:35	Welcome and Introductions - Judy D'Amico, Tim Brower – PLTW; Steffen Moller - CC
	<ol style="list-style-type: none"> <li>PLTW - <a href="#">national website</a> - <a href="#">OPAS Brief on PLTW</a> <ul style="list-style-type: none"> <li>Overview (if needed) by Judy D'Amico               <ul style="list-style-type: none"> <li>Q &amp; A</li> <li>Supporting docs from earlier today                   <ul style="list-style-type: none"> <li><a href="#">ASEE STEM Program Rubric</a></li> <li><a href="#">PLTW Transcribed University Credit</a></li> <li><a href="#">PLTW Schools in OR as of 12/31/07</a></li> <li><a href="#">PLTW Grants in Oregon</a></li> <li><a href="#">Evaluation report 2006-07</a></li> </ul> </li> </ul> </li> <li>Expectations for the future in Oregon - Tim</li> <li>Costs</li> </ul> </li> </ol>
	<ol style="list-style-type: none"> <li>Articulation options for PLTW           <ul style="list-style-type: none"> <li>Options               <ul style="list-style-type: none"> <li>High School elective</li> <li>High School CTE sequence</li> <li>High School science graduation requirement</li> <li>credit towards specific CC or "early college" program</li> <li>credit towards a specific university program (e.g., OIT Manufacturing Engineering Technology)                   <ul style="list-style-type: none"> <li><a href="#">Powerpoint on statewide articulation agreement</a></li> </ul> </li> <li>credit towards a recognized national program (e.g., AP)</li> </ul> </li> <li>Questions               <ul style="list-style-type: none"> <li>Is this inherently piecemeal in Oregon?</li> <li>What can be done on a unified basis?</li> <li>Facilitation of local processes possible?</li> <li>Role of universities?</li> <li>Clarification for counselors, students, parents?</li> </ul> </li> <li><a href="#">Alternate Recognitions</a> - Tom</li> </ul> </li> </ol>
	<ol style="list-style-type: none"> <li>Proposed OPAS Investment Model <a href="#">DRAFT</a> rev I 1/08/08           <ul style="list-style-type: none"> <li>ETIC Meeting is February 8.</li> <li>Prepare Workgroup Segments (Boxes) - Dick's drafts               <ul style="list-style-type: none"> <li><a href="#">In-class grades 9-12 Engineering</a></li> <li><a href="#">In-class grades 9-12 Computer Science</a></li> </ul> </li> </ul> </li> </ol>
	<ol style="list-style-type: none"> <li>Public feedback on the Oregon CTE plan - Dick submitted this as a private individual because of timeline constraints. He would like to know if he captured the group's thinking, and if anyone sees any red flags.           <ul style="list-style-type: none"> <li><a href="#">Document</a></li> </ul> </li> </ol>
4:55 - 5:00	<ol style="list-style-type: none"> <li>Next Meeting Tuesday, February 19, 2008           <ul style="list-style-type: none"> <li>Time to change default meeting time?</li> <li>Items for the Agenda?</li> </ul> </li> </ol>

### Summary of the Workgroup Meeting

Eight members of the workgroup attended the January 22<sup>nd</sup>, 2008 meeting along with guest Judy D’Amico of the national Project Lead the Way (PLTW) organization. Judy presented slides in response to our pre-meeting “essential questions” - :

- PLTW as a STEM Curriculum Model**

- ASEE rubric a great resource. Dick's version "Thinking about Pre-Engineering" focuses on local issues and things we have been talking about.
- **Certification and State Leadership**
  - Includes the development of master teachers who teach with university faculty at the Summer Training Institutes. Master teachers are compensated via a \$4750 stipend and expenses for the two-week workshop.
- **College Credit – Transcribed and Articulated**
  - Some highly competitive engineering schools offer "seat guarantees" to PLTW students.
  - Tom points out that the legislature is providing more incentives to maintain the articulation connections with the community colleges than in the past
- **Computer Science in the PLTW Curriculum**
  - PLTW uses the skills more than teaches the discipline. Pursuant to this meeting and our questions, PLTW published a white paper on CS in the PLTW curriculum:
- **What Other States are Doing**
  - Look at Indiana Department of Education's website. They specifically endorse PLTW. They offer different "flavors" of diplomas.
  - Iowa funds PLTW via legislative line item.
  - Some states fund a PLTW position in the Department of Education.

Tom passed on the positive feedback he had heard on Dick's public feedback on the Oregon CTE Plan, which Dick submitted as a private citizen due to the short timeline. He did, however, try to incorporate the consensus of the group.

#### **Next Steps:**

- **Articulation:**
  - Clarify and verify our understanding of the current situations with the community colleges.
  - Prepare for further discussion on the university side; progress was made today in making PSU and OSU more aware and informed about PLTW.
- **Legislative Planning:**
  - We reviewed the group consensus: whatever is proposed needs to be a transformative vision with the capability of reaching a broad number of students, including underrepresented students; show significant leverage of resources – monetary, volunteer, partner investments; evoke a long-term commitment on the part of grantees/strategic partners; ultimately integrate into non-ETIC, sustainable funding streams; and be capable of quantitatively demonstrating an impact on students and their preparation for and choice of technical careers.

**Next Meeting:** To be scheduled depending on the next Steering Committee Meetings and the proposal writing timeline.

**Attendees:** Dick Knight, Jo Oshiro, Bruce Schafer, Tim Brower, Judy D'Amico.

<b>Wednesday January 23</b>	<b>Objective</b>	<ul style="list-style-type: none"> <li>• <b>More introductions to key players and stakeholders</b></li> <li>• <b>Some reflection, analysis &amp; brainstorming</b></li> <li>• <b>Identify next steps re: PLTW in Oregon</b></li> </ul>
<b>Time</b>	<b>Participants</b>	<b>Objective</b>
9:00 – 10:00	Judy, Jo, Dick	Tour of HS2 when kids are present
10:15 – 11:45	Bruce, Jo, Dick, Tim, Judy	Legislative Investment Model <ul style="list-style-type: none"> <li>• How have other states gotten \$\$\$?</li> <li>• Other info useful to the Investment model</li> </ul> CS Curricula in PLTW Debrief: <ul style="list-style-type: none"> <li>• Where can Judy add value?</li> <li>• What are next steps?</li> <li>• What holes does she see that we might want to address?</li> </ul>
12:45 – 1:30	Judy, Tim	Lunch with Eileen Drake of PCC Structural & some of her HR people. She co-chairs the Portland Business Alliance's Regional Business Plan Education and Workforce Initiative.
3:00	Judy, ACE Charter Schools Michael Taylor et al.	They are a few minutes from the airport; will provide an agenda; their plan is to break up the curriculum into component proficiencies for 2 year academy – engineering, construction, architecture; sending delegate to 1/22 lunch.

### **Summary of the PLTW Worksession Debriefing**

The Worksession's key participants agreed that the day was productive and feedback from other participants positive. Some key followup:

- Jo – summarize action items and send emails to Dick, Tim, and Judy.
- Further research into the actual status of Autodesk service and costs is needed because of persistent rumors and the possibility of residual reputation issues.
- Jo will post Judy's folder of articles on PLTW
- Tim has been meeting with Portland Public Schools people – Kevin Jeans-Gail of PPS and the Portland Workforce Alliance, and Leslie Renne-hill of PPS. He has also met with Chalkboard.
- Judy provided more information on the structure of CSU engineering outreach to Dick.
- Follow up with these people who were invited but unable to attend -- Jo has provided the OPAS PLTW 1 pager via email (all of this may need to wait until after the ETIC proposal):
  - Norm Eder, Mfg 21 (Dick knows him) – mailed PLTW 4fold brochure.
  - Jim Craven, AeA (Dick knows him).
  - Ed Dean, ACEmentor program (Dick knows him).
  - John Marshall, AOI
  - Fred Haynes of LBCC – Jo got Dick contact info.

Both Tim and Judy later reported via email that their meeting with Eileen Drake, PCC Structural and Portland Business Alliance's Education and Workforce Taskforce were positive. Judy also reported on her meeting with the ACE Academy people, and Tim on his meeting with PPS.

*Respectfully submitted, Jo Oshiro, February 22, 2008*