

# NWCET Best Practices

**Title:** Oregon State Technology Initiative

**Challenge:**

Based on a report released in 2004 by the Oregon University System, Information Technology (IT) workers comprise the largest segment of the state's knowledge workers that are the key for its economic development. With over 71,000 current IT workers and an estimated annual openings of 6,000 in new and replacement jobs over the next three years, the concern for the Oregon IT workforce has reached the "radar screen" along with a more urgent need to establish a statewide focus on IT.

**Solution:**

The Oregon Information Technology Task Force was organized in 1999 as a coalition of educators, industry professionals and economic development groups who shared the same dream: that all Oregon students acquire a basic IT literacy level that would serve them well throughout their lives and careers. The Task Force Goals were developed and are listed below:

1. Oregon Department of Education licenses the Northwest Center for Emerging Technologies (NWCET) IT "Foundations" curriculum, making it available to every school district and community college in the state for the cost of printing.
2. A core group of Oregon educators are trained to use the "Foundations" curriculum.
3. A CAM strand called "Information Technology" is added to the existing list of six state-approved CAM strands.
4. The "Use Technology" CIM Standards are revised to include Information Technology Literacy at grades 4 – 10 and curriculum is developed to support the new benchmarks.
5. A state-wide Information Technology staff development program is developed and implemented throughout the state for grades 4 – 14.
6. High School - Community College IT Tech Prep curriculum is developed/adapted/adopted that allows every high school student in the state the opportunity to earn community college while still in high school.

With the accomplishment of goals #1 and #2, the first annual Oregon Information Technology Summer Institute was conducted for two days at the Gresham High School Tech Lab. The institute was co-sponsored by the Oregon Department of Education, NWCET and the Oregon IT Task Force. The Office of Professional Technical Education paid for the licensing of NWCET's curriculum, making it available to all schools and community colleges in Oregon on line and for hard copy printing costs. The Oregon PTE Regional Coordinator Network registered and funded travel costs for participants. Forty participants from across the state were selected to attend this first institute.

**Outcomes and Benefits:**

The success of this first institute was extremely important. Participants were expected to learn about the skill standards-based curriculum development process and map out

strategy for dissemination in the area of Information Technology for their entire state. The topics covered during the institute addressed these areas and the technology lab environment enhanced their understanding of the potential. A sample topic outline of the agenda is provided to emphasize the detail of planning required:

1. Review of the Principles of Standards – Based Education
  - Implications for Instruction and Assessment
2. NWCET IT Skill Standards Development
3. Introduction to NWCET Curriculum Development Process Model
4. NWCET High School (Tech Prep) Curriculum Development
  - Initial Development & Structure
  - Evolution & Maintenance
  - Overview of Adaptation and Implementation
5. Using the NWCET High School Curriculum
  - Teaching several of the Lesson Modules
    - 4 Preparing to teach
    - 4 Changes and modifications
    - 4 Resources for Preparation
    - 4 Alignment with Other Curricula and Standards
  - Recap of Experience and Process Check
6. Lesson Evaluation
7. IT: What's the Value for the Learner?
8. Strategies for Systemic IT Standards Implementation
  - CAM Endorsement
  - Career Pathway
  - Benchmarks at 3-5-8-10-12
  - Individual Course Development
  - Integrated Instruction
  - Et. Al.
9. IT Literacy at Different Instructional Levels (CIM & CAM)
  - What IT literacy skills are needed at each level in order to be successful in the NWCET curriculum?
10. Alignment with (or creation of proposed) State Benchmarks
  - Career Related Learning Standards
  - "Use Technology" standard from CIM
  - CAM Framework (out 31 July 2000)

\*\*\* At this point groups were divided based on mid school, high school and community college teaching assignments. Each group worked on the following:

11. Develop a list of ideas of how to use the NWCET curriculum in your classroom fall 2000 – 2001 school year.
12. Develop a list of strategies that could be employed to influence your institution to implement the IT curriculum.
13. Develop a list of IT courses community colleges are most likely to be willing to articulate.
14. Develop a sample grade 9 – 14 "Tech Prep" scope and sequence course configuration that uses the modules contained in the NWCET IT curriculum.
15. Reporting and Sharing of Group Work (To be compiled and sent to all participants)
16. Wrap Up Discussion and Questions
  - Where do we go from here?
  - What support is needed locally for you to implement the IT curriculum?

- How can we garner industry/other support?

**Next Steps:**

To continue the training of educators throughout Oregon, the state was divided into four districts and one-day workshops to be presented during a two-week window prior to end of fall semester were scheduled. The four workshops would incorporate the participation by the original 40 teachers from the Summer Institute wherever possible and would provide an overview of materials and implementation strategies. The workshop agenda included: 1) an explanation of IT Skill Standards, 2) copies of full curriculum, 3) hands-on activities to introduce lesson plans in NWCET curriculum materials and to review web sites for resource materials, and 4) an activity to prepare lesson agenda utilizing curriculum/resources.

The results: Pendleton – 30 educators completed the training, Beaverton – 43 educators completed the training, Medford – 20 educators completed the training, and Eugene – 20 educators completed the training.

**Key Issue:**

Despite the wide diversity of educational objectives across the state, the issue of standardizing the IT curricula offered at the high school and community college levels galvanized a grass roots support which lead to a mandate by the Oregon Department of Education. The coalition formed by the Oregon Information Technology Task Force was able to accomplish more in six months that what had ever been accomplished by a state-recognized agency.

**Partners:**

Individual Teachers and Faculty Members from across the State of Oregon  
Education Service Centers in 1) Pendleton, 2) Portland, 3) Medford, and 4) Eugene  
Oregon Department of Education representatives  
Multiple Oregon-based IT industry professionals