CAM COOKBOOK

A Guide To Development Of The Certificate Of Advanced Mastery

Oregon Business Council/David Douglas
Model District Partnership

November 1996

I Introduction

In the fall of 1993, David Douglas School District and the Oregon Business Council (OBC) joined in a partnership to implement all key elements of the Oregon Educational Act for the 21st Century. The District, which serves 7,269 students and is located in east Portland, is a state pilot site for certificate of mastery programs. OBC, which is composed of 43 chief executive officers of large Oregon companies, is committed to full implementation of Oregon's Educational Act.

The goal of the partnership was to move discussion of the Act from the abstract to the concrete. Because implementation of the Act was to be drawn out over an extended period of time, OBC believed it would be greatly enhanced if one school district were to implement all key provisions on an accelerated timeline. The resulting model would demonstrate the feasibility of the concepts imbedded in the Act, and the lessons learned would be helpful to schools and businesses statewide.

David Douglas School District was chosen as OBC's partner due to its prior commitment to school improvement, the leadership of its superintendent, its location in the Portland metro area (where many Council companies were headquartered), the manageable number of schools in its district, per pupil funding near the state average, and the economic, social and ethnic diversity of its student population.

To demonstrate its support of the Act, the OBC member companies pledged to provide technical and political support, but no direct fiscal assistance, to David Douglas. The district agreed to develop a comprehensive plan for implementing the Act, and utilize the support of OBC and its member companies as one dimension of this plan.

Design of the Certificate of Advanced Mastery (CAM) program attracted 100 high school faculty and the personnel of 22 OBC companies. Meeting twice monthly in teams co-chaired by business and educator representatives during the '94-'95 school year, the CAM Design Teams formulated programs to prepare students for success in the 21st Century.

The CAM Cookbook captures the key findings and guidelines to CAM development resulting from an evaluation of the partnership conducted in July 1996 by Dr. David Conley of the University of Oregon and Patricia Stone of the Bank of America. A copy of the full evaluation is available by contacting the OBC office, 1100 SW 6th, Suite 1608, Portland, Oregon 97204, (503) 220-0691 or (503) 228-9768 (fax).

II What Is A CAM?

The CAM serves as a ***transition*** from the CIM to college, community college, proprietary training schools and programs, the military, and the world of work.

A CAM program consists of three elements:

1. Studies that address the CAM Academic Content and Career-Related Learning Standards.
2. Work-based learning experiences from among a broad range of possibilities.
3. Focused studies leading to an endorsement within one of six (or more) career pathways.

Students receive a CAM when they do two things:

1. Meet specified levels of performance on all CAM standards.
2. Participate successfully in work-based learning experiences.

The CAM extends the CIM content standards to a deeper level of understanding and requires the mastery of new content knowledge as well.

The CAM aligns with college admission proficiency requirements as well as many work readiness skills.

CAM assessments consists of the same basic elements as CIM and PASS. These elements are:

- State multiple choice tests
- Performance assessments
- Teacher-verified student work samples

What Is A CAM?, continued

In addition:

- Students may earn an endorsement in any one of six (or more) career pathways.
- The performance standards for an endorsement may be set at the state or local level depending on the endorsement.
- Some endorsements fulfill industry requirements and prepare the student for entry-level employment or additional job-related training.
- Other endorsements link with local community college professional-technical programs and prepare students to enter such programs.
- Some endorsements may require additional study in a community college.

III Critical Elements

Critical Elements Of A CAM
Clear criteria for being awarded a CAM
CAM studies that help students become proficient in CAM standards
Ability of students to meet CAM standards more than one way, depending on student's goals and aspirations for the CAM and after the CAM
Learning experiences that incorporate contextual learning
Assessment that captures authentic aspects of contextual learning
Multi-year portfolio spanning CIM and CAM, then into an endorsement that includes work samples employers agree are important
Direct links between CAM programs and postsecondary programs in community colleges and four-year institutions
Personal transition plans that students develop to guide their post high school experiences
Endorsement-specific standards that draw upon industry skill standards where appropriate
Endorsement-specific electives

IV Enabling Factors

CAM Program Enabling Factors
Flexible blocks of time, including the ability for students to work semi-independently and independently on-campus, as well as the ability for students to leave campus for CAM activities
"Menu" of progressively more authentic and comprehensive work-based learning activities for students
Individual with responsibility for organizing work-based learning activities for students
Appropriate range of school-to-work activities from visitations to internships
Adequate locations for school-to-work activities - enough variety to enable students to make choices matched with their interests or curiosity
Adequate time for teachers to develop appropriate units to support CAM goals
Standards that can be used to score assessments

V CAM Cookbook

The following steps apply to business and education partners who want to work together to develop CAM programs at a local high school or school district. These can be thought of as the "ingredients," techniques, or processes for the successful development of CAM programs where two conditions exist: 1) the high school is ready to undertake large-scale educational redesign; and, 2) the business community is an active and enthusiastic partner in the development process from the very beginning.

1. Begin with broad agreements between both sectors on overall goals, roles, responsibilities, and commitments of each sector, and the planning process to be employed. Make it clear what is being asked of business and what the school is willing to do to make the CAM successful.

2. Create a development team that includes a range of teachers, particularly teachers from core academic areas who may not have previous contact with CAM-type learning experiences. Include, if possible, at least some business people with knowledge of the educational system (former teachers, school board members, or parents who have been very active in school).

3. Take some time up front to understand each other's world view and to appreciate the challenges each deals with daily. Don't get stalled on the differences between schools and businesses, but don't overlook the real differences, particularly in their cultures and the conceptions of acceptable rates of change.

4. Establish clear timelines for developing CAM "pathways." Make sure adequate resources are available for program planning and curriculum development work. Resources include staff time (both for coordinators and developers, and general faculty training), examples of model CAM programs or other career development approaches, and some money for stipends for curriculum and assessment development.

5. Have a definition of what a CAM program is, its "critical attributes," to ensure that these are addressed in the design process.

6. Determine the school's capacity for development work. Make sure the school is not overloaded with projects currently, or that the teachers who are involved are not radically overcommitted. Stagger development of pathways, having one as the "pathfinder" project that other CAM pathways follow.

7. Begin to inform the community of the CAM planning process. Joint business-educator presentations can be a powerful tool. Be prepared to listen to parental concerns and to respond to them.

8. Make sure that administrator and teacher support is adequate to make the changes necessary to allow the types of learning required for the CAM. These types of learning may include off-campus experiences, interdisciplinary learning, projects that require larger blocks of time, and student products that are judged publicly. Administrator support includes communicating about the project to the Board of Education, securing resources necessary for startup activities, allowing schools to find the time to plan, and making sure a "fast track" review and approval process is in place to ensure that new courses, programs, and learning experiences are put into practice rapidly.

9. Link the planning team to other governance groups in the school and district and key individuals in participating businesses (site council, administration, school board, department chairs, management teams).

10. Establish the legitimacy and formal authority of the planning team relative to other governance groups. The planning team cannot be solely advisory; it must have the authority to make decisions and allocate resources. These decisions may be subject to review by other governance groups.

11. Review the state standards for the CIM, CAM, and PASS. Make sure any CAM helps students to become proficient in these standards through their CAM studies.

12. Identify any industry standards that may be relevant.

13. Using these standards, determine the key skills and standards students will master in the CAM before developing the learning experiences that enable them to do so.

14. Keep in mind that it will be difficult to hold students to high standards in only one program (the CAM) if they can "get by" in the rest of the high school with a D- average. Consider higher expectations school-wide as a way to make the higher requirements of the CAM acceptable.

15. Design CAM assessments while the learning experiences are being designed, instead of waiting until they are all developed.

16. Develop an evaluation plan to determine the effectiveness of the CAM. Include benchmarks that track student learning and performance, both in school and after graduation, as well as into the workplace.

17. When identifying the learning experiences that will comprise the CAM, do not simply re-label or regroup existing classes exclusively, although some classes may be included in their current form or with some modification.

18. Identify any new courses that will be developed. Whenever possible, make sure students are acquiring skills necessary to meet required state standards in these classes. Look for opportunities for interdisciplinary teaming, particularly between "professional-technical" teachers and "core academic" teachers.

19. Determine if some skills can be obtained outside of class via experiences or projects undertaken in settings other than the school.

20. Invite representatives from local community and four-year colleges to review the team's work to ensure each CAM links directly with some postsecondary programs in community colleges and four-year institutions. No CAM should be a stand-alone or dead-end program.

21. Constantly identify the places where the existing structure of the school or business will impede the learning experiences necessary to achieve the CAM. Make sure that the planning team is alerted to these potential obstacles and that plans are made to remove the obstacles in a timely fashion.

22. Review the CAM to ensure it is consistent with any CIM programs that may be developed or developing, and with any programs that help the school adapt to the PASS (college admission) requirements. Identify any points where the programs are potentially in conflict.

23. Anticipate changes that are time-sensitive, such as printing deadlines for course catalogs. Attend to these key dates, or make arrangements for alternatives so the planning process is not operating independent of the school's annual schedule. This will allow CAM courses to come on-line quicker.

24. Anticipate training and planning needs related to developing the curriculum and assessment tasks required for the CAM. Curriculum development teams, for example, will probably need to be working during the summer and being compensated for their work.

25. Identify who will teach in the CAM program and take steps to ensure that the CAM is not totally dependent on a particular individual. Similarly, make sure a business connection will not be lost if one person changes jobs within a company.

26. Carefully develop a continuum of work-related learning experiences that form a sequence of greater involvement in and understanding of the work world. Ensure students are ready to move to each new level, thereby minimizing bad experiences for students and/or employers.

27. Make sure all logistical and legal issues are resolved before students begin work-based experiences. Several school districts have already developed manuals that outline the necessary steps to be taken to deal with insurance, worker's compensation, and school law-related issues.

28. Review the proposed CAM to determine if it is likely to attract student interest through contextual, or applied, learning experiences, authentic assessments, challenging standards, quality interactions with a range of adults, and a clear linkage to future learning and employment opportunities.

29. Analyze the human resource requirements for businesses to sponsor their portion of the CAM learning experiences. Identify the key contact person within the business. Make sure the company's key executives approve the specific involvement they are agreeing to undertake. Ensure key employees are available and that their supervisors have been alerted to this additional obligation their employee is assuming.

30. Provide orientation for students and parents before new CAM programs are put into place so they understand the expectations, responsibilities and requirements. CAMs will often require students to take more ownership for their learning, which will be new to some, and will offer more learning in context outside classrooms, a sometimes new notion for parents.

31. Create some incentive for students to participate in the CAM program. If the school cannot yet award the CAM, create some sort of "honor" to be added to the diploma and recognized publicly at graduation.

32. Use the products students create in CAMs to publicize the CAM to students and parents. Whenever possible, arrange for business people and students to be present when such products are displayed to explain how they were created and what was learned.

33. Examine the makeup of the students in each CAM. Avoid creating programs that become informal tracks composed of students from the same ethnic, social-economic, or gender group.

34. Gather structured feedback from students and business people each time a student group visits a business to determine the effectiveness of the visit and any unforeseen problems. Avoid misunderstandings before they develop.

35. Create adequate written materials at each step in the development process to inform students, parents, and faculty of the program's progress and requirements. Hold "open houses" perhaps at a local business that participates in the CAM to help community members and students understand the program better and become excited about it.

36. Work to "institutionalize" the CAM so that it is an integral part of the school program and will not be "reabsorbed" into the school when the original developmental team disbands.

37. Develop ways to acknowledge and celebrate achievements and to share such information with the public.

38. Revisit and renew the basic plan and premises of the partnership on a periodic basis, refining and clarifying expectations and goals, and celebrating achievements.