

To improve the quality of teaching and learning by asking faculty, staff and administrators to reflect upon and examine teaching methodologies, learning outcomes and curriculum.

A) Evaluate the curriculum using Commission on Dental Accreditation guidelines.

See Curriculum section of Commission on Dental Accreditation Self-Study for Dental Lab Technology Programs which follows this report.

B) Review and revise learning outcomes.

See completed CCOGs on PCC website. All have been revised and are posted on the internet.

C) Evidence that outcomes are being met.

The Dental Lab Technology program has developed program goals and an assessment plan to measure attainment of them. (See Exhibits 1 and 4). The programs goals include preparing students to be competent in their field as Goal #1. The faculty developed a set of graduation competencies which form the basis for the curriculum and reflect the outcomes of each course. (See Exhibit 15.)

To graduate from the Dental Lab Technology program, this set of competencies must be met by the student. These competencies are supported by outcomes and learning objectives in each of the courses and a variety of evaluation methods are used to assess the students' readiness to graduate. An example of competency assessment is in Exhibit 19.

See Exhibit 1: Purpose and Goals

Exhibit 4: Goal Assessment Plan

Exhibit 15: Competencies for the Dental Lab Technology Graduate

Exhibit 19: Competency Assessment Chart

D) The courses in the Dental Lab Technology program are a reflection of the college's core outcomes.

Communication: First year students are required to take a speech class. In class, individual students are frequently selected to give a five minute briefing on what was covered in the previous class period. All students give at least one briefing each quarter. Writing 121 is a competency for degree seeking students. Second year students give a presentation to the class in DT 275 Dental Lab Management and create a number of business letters/documents. They write term papers in DT 253 Science of Dental Materials III and DT 272 Dental Ceramics.

Community and Environmental Responsibility: Students apply their understanding of the effects of hazardous wastes on the environment by practicing correct handling and disposal in the laboratory. They are required to attend annual blood-borne pathogens and hazardous materials training. The faculty work closely with Chris Ells office in

the safe use of chemicals and the students take a course entitled HE 125 First Aid and Industrial Safety developed especially for this program by Life Sciences Division.

Critical Thinking and Problem Solving: Written exams are structured to require reasoning rather than memorization. Lab projects require students to integrate information from a variety of sources to complete a project. This process involves selecting appropriate materials, problem solving based on a dentist's work order and trouble shooting when procedures go awry.

Cultural Awareness: The DLT program has one of the most diverse groups of students on campus. Demographics information is included with this report.

Professional Competence: Dental Lab Tech students demonstrate mastery of the standards of the profession by passing the courses and completing an optional certification exam. The graduation competencies developed by the faculty reflect the standards of the profession. (See Exhibit 15) Students are required to demonstrate professional competence prior to graduation. The program is fully accredited by the Commission on Dental Accreditation.

Self-reflection: Lab projects which do not meet predetermined standards require the student to do a self-appraisal to determine the cause of the problem. The exit survey given to students just prior to graduation asks students to assess their ability to perform the basic skills of dental laboratory technology.

To maintain instructional quality consistent with standards of excellence within the discipline/program.

A) Assess the success of the program in contributing to the College mission.

The purpose and goals of the program reflect a commitment to the college's mission statement. (See Exhibit 1: Purpose and Goals Statement)

The success of the program is assessed on a yearly basis. (See Exhibit 4: Goal Assessment Plan). The faculty and administration are confident that the program is contributing to the College's mission as shown by the support of the dental professional community and diversity of its students. This is the only program of its kind in Oregon and it offers students the options of a technical education through the certificate program and the option of an associate degree with an added 18 credits of general education.

1. Describe changes the SACC has made to instructor qualifications and reasons for the change.

- No changes have been made.

2. Describe how students use the library and other outside information resources.

- Several student assignments require the use of resources from outside the

classroom. These include general library resources, dental journals and texts and the internet. Examples:

- DT 253 Science of Dental Materials III and DT 272 Dental Ceramics require students to research scientific literature and produce a short researched paper.
- Guest speakers provide information on employment opportunities and a variety of laboratory products and processes.

To respond to the changing needs of students and the community.

A) List the professional development activities of the faculty over the last three years and describe any instructional or curricular changes made as a result of those activities.

The instructors are Certified Dental Technicians (CDT) and are required to take a minimum of 10 CEU per year to maintain certification.

Gary Smith attends study clubs and continuing education to keep up with changes in dental materials and techniques primarily in the area of ceramics, and to maintain his certification. The students benefit directly from these activities as the curriculum, teaching materials and lab techniques change to reflect current lab practice, ie the introduction of pressable ceramics. He also is incorporating new instructional technology into his teaching by taking courses in digital photography.

Ray Ridgley attends continuing education courses in the area of denture fabrication to maintain his certification. His first year students benefit from the installation the injection denture system and microwave acrylic. He is also an excellent internet use resource for the students in the program.

B) Describe any significant shift in student demographics within your discipline and how that has impacted instruction

The program has been losing students from the second year of the program for some time. Part of the reason for this is that more students are interested in dentist technology which requires only the first year of the curriculum. In 1999, the faculty proposed a program revision which addressed that problem and the following concerns:

- High admission test standard limited numbers of new students.
- Rigorous curriculum led to loss of first year students early.
- Need to aggressively market skill upgrade courses to bring in other students from the professional community.
- The current schedule of classes did not fit the needs of potential students.

Survey results showed students would prefer classes to be offered in the evenings so there would be opportunities to work. Dental lab professionals indicated a need for skill upgrade coursework, either CEU or credit courses that would lead to certification. Salary studies showed that entry level salaries for dental lab technicians are quite low, which makes the program difficult to market. The faculty developed a plan for program revision which is in the final stage of

implementation in 2001-2002. The “Dental Laboratory Technology Program Revision Plan” is included at the end of this report.

Many ethnic groups are represented in the program. Students who come into the program with English as a second language often need accommodations in test taking time, and other support. Students with disabilities are accommodated as well. This year a student who is hearing impaired was successfully accommodated by means of sign language interpreters. An extended program option has been developed to ensure students can complete the program if they desire. Instructors develop individualized instructional plans for these students which requires extra time.

C) Give examples of how feedback from students and businesses was used to make curriculum or instructional changes.

The program has a comprehensive outcome assessment program which addresses the program goals. (See Exhibit 4: Assessment Plan for Dental Lab Technology Program Goals.) It includes:

1. Course evaluations resulted in advanced specialty courses being added as electives open to program students and working dental technicians.
2. Student exit surveys resulted in changes of course sequence and elimination of the core Ethics and Jurisprudence course. Lab tech students did not feel the primarily clinical and health care based course taken with Dental Assisting and Dental Hygiene students was relevant. Appropriate professional ethics content for lab tech students was added to the Dental Seminar course, which includes workplace preparation topics, and to the Dental Lab Management course.
3. Alumni surveys sent to graduates after one year in the work environment. The results pointed out the fact that the low salaries do not justify spending two years in the program that is only offered between 8 am and 5 pm. The faculty used these results in adjusting the course offerings to a more student friendly schedule and moved to a more competency based, rather than lock step curriculum.
4. The advisory committee was very supportive of the program revision and has been helpful in promoting the skill upgrade classes.

D) What strategies are used within the discipline/program to increase enrollment, improve student retention and student success.

See Program Revision Plan included with this report.

E) Report any changes made in the last three years to increase student access and diversity.

See Program Revision Plan included with this report.

F) Identify any operational issues faced by the SACC that impact student learning in your area (eg. facilities, availability of part time faculty and other needed resources).

Lack of space, modern equipment and lab stools. The facility is 30 years old and has inadequate ventilation, technology and storage as well as heating and cooling problems. The faculty have identified and prioritized needs based on factors that most directly impact student learning. Equipment lost through normal attrition has not been replaced due to lack of funds. The faculty have been very fortunate to have acquired some expensive equipment from donations and are skilled at repair and making do with less. The lack of equipment necessitates reducing the number of projects formerly required in some courses. Some projects must be delayed to accommodate inadequate equipment for the numbers of students.

To develop recommendations for improvement in the program/discipline.

A) Assess the strengths and areas in need of improvement in the program/discipline.

Strengths:

1. diverse applicant pool
2. strong dental community support.
3. 100% of graduates find employment upon graduation
4. instructors well qualified
5. fully accredited by Commission on Dental Accreditation

Areas of Needs:

1. technology and equipment improvement
2. low student retention

B). Set of recommendations:

1. Make current lab technology available to students through the acquisition of up-to-date equipment.
2. Follow through with curriculum changes outlined in the “Program Revision Plan.”

To ensure that curriculum keeps pace with changing industry demands and continues to successfully prepare students to enter into the career field.

A) Evaluate the impact the advisory committee has on curriculum and instructional methods.

1. Bring current practices to our attention
2. Function as liaison between PCC, the community and the dental profession
3. Keep us apprised of resources available to us and of the changing needs of the dental profession and lab owners
4. Advise us on changes proposed in the program revision.

B) Review job placement statistics of students in your program over the last three years, including salary information where available.

Alumni survey data indicates that most students work as employees in labs. Students who want to start their own lab business generally need to work in an entry level position first to establish a reputation and client base. All students can find positions immediately after graduation and the department maintains a jobs posting.

Salaries of dental technicians vary, depending upon the responsibilities associated with the specific position and the geographic location of employment. In this area, most graduates start at approximately \$8.00 /hour. There is evidence that dental technicians who have completed a formal training program will advance more rapidly in the field resulting in higher lifetime earnings. Most dental technicians work in commercial dental laboratories which, on average, employ between 3-5 technicians. Additionally, some dentists employ dental technicians in their private dental offices. Since most dentists use lab services, employment opportunities in this field are excellent. Employment opportunities for dental technicians may also be available in dental schools, hospitals, the military and companies that manufacture dental prosthetic materials.

C). Analyze the program learning outcomes, competencies, and skills as compared to the business and industry needs today and in the immediate future.

1. Standards of the Commission on Accreditation are being met.

2. Students are prepared for the certification exams in the program.
3. Certification is optional, not necessary for employment and can be obtained on the job
4. To graduate from the program, students must meet the defined competencies which reflect industry standards.
5. For OJT dental technicians, the faculty offer continuing education classes in a variety of areas to prepare working dental technicians with updated employment skills.

D) Forecast future employment opportunities.

The demand for dental services will continue to grow. Due to the success of preventive dentistry in reducing the incidence of oral disease, the growing older population will retain their teeth longer, and will be even more aware of the importance of regular dental care. Dentists will need to use the services of dental technicians more than ever before to meet the increased demand for dental services.

E). Analyze any barriers to certificate completion. Describe the main reasons students leave the program before completion.

See the “Program Revision Plan” which was developed to address the barriers to certificate completion.

Lack of adequate funds has been a barrier for students. We received a grant from the ODS Foundation two years ago for scholarship funds which are used to help students who need immediate help to complete the program. The change in class scheduling was made to enable more students to work and go to school.

We have developed the extended curriculum to help those students who need extra time to complete the program, reducing the number of early leavers. The program is moving toward competency based education and away from a lock step program. A course has been developed as a practicum to allow students to register for extra lab hours as needed and to reinforce skills. It is also used for students who cannot continue in the normal sequence of courses without remediation.