

**DEPARTMENT REPORT  
OF  
PROGRAM LEARNING OUTCOMES ASSESSMENT**

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Department: Respiratory Care

Program (Degree): Respiratory Care (RET)

Type of Degree:  X  AAS   AA   AS   ATS   AIS

Chairperson: Cindy Beckett Date: 2/12/01

Person(s) Interviewed: Cindy Beckett

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- I. **Program Curriculum:** A description of the basis for the program curriculum (i.e., how it is derived and validated). Include accreditation organizations, advisory committees or external groups that influence curriculum. Describe curriculum review activities including the review of course master syllabi\*.

The Committee on Accreditation for Respiratory Care (CoARC) is the National Accreditation Agency. The Committee provides standards and essentials for the RET curriculum. The last accreditation visit was in September of 2000, and the program was accredited for five years. No deficiencies or recommendations were made.

Members of the local Advisory Committee, including former students, provide ongoing guidance and input into the program. The Ohio Respiratory Care Board is the licensing agency for Respiratory Therapists. There are several professional associations which provide general information for RET programs but they do not influence the curriculum or policies directly.

**II. Program Learning Outcomes:** A description of what you intend for students to know (cognitive), think/feel (affective), or do (psychomotor), when they have completed your degree program. A suggested manageable number of outcomes should be in the range of five to ten. Describe Program Learning Outcomes review activities\*.

The Respiratory Care (RET) program learning outcomes have not been revised during the past year. The Master Syllabi is updated on a biannual basis and was last updated in 1998.

An entry-level graduate with an Associate of Applied Science Degree in Respiratory Care from Sinclair Community College will be able to:

Learning Outcomes	Related Courses
1. Demonstrate the ability to comprehend, apply, and/or evaluate information relevant to the job description of an entry-level respiratory therapist.	RET 110, 120, 130, 140, 224, 230, 240, 250, 260, 280, 295; BIO 125; ALH 140, 141, 220
2. Perform prescribed therapeutic modalities and diagnostic procedures relevant to the job description of an entry-level respiratory therapist.	RET 110, 120, 130, 140, 224, 230, 240, 250, 260, 280; ALH 140, 141
3. Demonstrate personal behaviors and attitudes consistent and appropriate to an entry-level respiratory care professional.	RET 110, 120, 130, 140, 224, 225, 230, 240, 250, 260, 280, 295

**III. Assessment Method(s):** A measurable indicator of success in attaining the stated learning outcome(s). The methodology should be both reliable and valid. Please describe in detail.

a. Formative Assessment Method(s) and Description: a measurable indicator of student in-progress success in attaining the stated learning outcome(s).

An individual “advising record” is maintained for each RET major. Individual advising/counseling sessions are held with each student and a faculty member on a quarterly basis. An advising form is precipitated when a specific problem is identified by a faculty member. A special meeting is then held with the student to review the problem.

Students receive weekly reports from their instructor about their clinical performance. In addition, the instructor generates an end-of-the-quarter report. Thus, students receive continuous and on-going formative assessment information in every course throughout the curriculum.

A student must achieve a "C" or better in all RET courses, both lecture and lab, to pass. A "C" is measured at a 75% percent level of mastery. If a student earns less than a "C" they must withdraw from the RET program and re-apply for reinstatement a year later.

Skills are sequential throughout the RET curriculum. Major projects include case studies, oral presentations, written projects, and group collaboration on projects/presentations.

An additional formative assessment methodology which incorporates more inductive reasoning has been included, and the end-of-clinical report has been revised. An affective assessment tool was developed by the faculty and continues to be used to provide students with appropriate feedback. A variety of assessment methods are used in RET courses including quizzes, term papers, clinical papers, process learning exercises, clinical assessments, and case studies.

The Human Patient Simulator is also being introduced as a formative assessment tool. Faculty are beginning to create a variety of scenarios appropriate to the Respiratory Care Technicians. The Human Patient Simulator is used approximately three times with first year students and more regularly with second year students.

- b. Summative Assessment Method(s) and Description: a measurable indicator of end-of-program success in attaining the stated program learning outcome(s).

Three pre-graduation examinations are administered in RET 280, Correlations In Respiratory Care, a six-credit hour course with two hours of lecture and 24 hours of clinical per week. These three examinations are retired National Board Examinations. This gives students direct experience with mock national board exams. Three examinations are used since the National Board has three components. Beginning this spring, one of the three exams will be online; the two remaining exams will be taken in the traditional manner. The results of the two examinations are calculated as part of the final grade in RET 280. The two tests for each student are sent to the national office to be scanned, scored and evaluated.

A standard form is used by the faculty member and/or preceptor to assess each student's clinical skills. There are approximately thirty skills which are representative of all psychomotor skills contained in all previous RET courses.

An employer and graduate survey are mailed out each year by the RET Department. The questions focus on RET graduates level of performance in the affective (personal), cognitive (knowledge) and psychomotor (doing) skill areas.

Students enrolled in the last quarter of the RET program complete a self-assessment questionnaire to provide feedback to the department.

Student communication skills are assessed through role playing exercises with a physician, using standardized scenarios. They are videotaped and critiqued by faculty and the physician. This feedback is shared with the students.

All summative evaluation methodologies must be passed for the student to successfully complete the program and graduate.

Following graduation, the graduates take the National Board Examination. In the past, these tests were taken shortly after graduation. However, currently, all tests are taken online and can be taken at any time.

**IV. Results:** A description of the actual results of overall student performance gathered from the summative assessment(s). (see II.b.)

RET majors have demonstrated a 100% pass rate on the three pre-graduation examinations administered in RET 280. Students must pass these examinations to graduate.

If multiple students fall below the national average in any one area the faculty identify this as an area needing improvement. For example, one content area that appeared to be repeated by multiple students was their inability to “make recommendations for therapy based upon patient response.”

Based on an analysis of the test results and comparing SCC student performance against the national average the RET faculty are satisfied that Sinclair RET students are meeting and/or exceeding the requirements of the program.

Traditionally, graduates of the RET program have exceeded or surpassed the national pass rate every year. RET graduates indicate they are doing very well and performing at a very high level. RET graduates have achieved a 100% pass rate on the National Certification Examination through 1998. The student results on the written registry have been above 85% since 1991. The national average is approximately 70-80%. The student results on the clinical simulations have been above 85% since 1991. The national average is between 40-50%.

Recent data is not available due to the online testing format implemented in the last year. It appears that students are not taking tests as soon as they can, and this is impacting their pass rates. Faculty are currently studying the impact of online testing on graduate performance.

Ninety-five percent of the graduates of the most recent RET class have been placed in jobs. Overall graduate placement rates have been extremely high. Many RET students acquire employment prior to graduation as they can work with a student permit after the first year of program completion. SCC must verify the student's first year of successful completion.

Attrition from the RET program has traditionally been very high. Approximately 50%-60% of entering students do not complete the program for one reason or another. The department has collected information from students about why they leave. The reasons for attrition include: personal problems, financial difficulty, taking too many courses (can't handle the load), wrong career choice. The RET Department Chairperson contacts the students who withdraw to determine why they leave. Forty-five students can be admitted into the program each year, and the program graduates approximately 10-15 students annually.

The Committee on Accreditation for Respiratory Care (CoARC) has noted that attrition is an area that needs to be improved; it should be no more than 30%.

New courses have been added as part of the core courses. Additional changes have been made. The program has been lengthened from 7 to 8 quarters without exceeding 110 credit hours.

- V. **Analysis/Actions:** From analysis of your summative assessment results, do you plan to or have you made any adjustments to your program learning outcomes, methodologies, curriculum, etc.? If yes, describe. If no, explain.

As a result of the high attrition rates, faculty studied all factors possibly affecting students' retention. The study determined that over 50% of the attrition from RET in the last ten years was for non-academic or personal reasons beyond the control of the program/college personnel. The program has four full-time faculty members and uses two to three part-time faculty members each quarter.

It also appears that the attrition can not be attributed to size of the cohort. When the entry class size was reduced, there was not a reduction in attrition.

In 1998, a new curriculum was implemented that included two quarters of prerequisite courses followed by seven quarters of technical and general education (including science) courses. This change had been suggested by a previous referee. To date, there does not appear to be any improvement in attrition statistics.

Minor curriculum and content changes occur on an on-going basis based on feedback from the Advisory Committee, students, employers, and faculty.

- VI. **General Education:** Are you using any tool(s) to assess any of the three primary general education outcomes \* (communication, thinking, values/citizenship)? If so, describe.

- a. Where within the major do you assess written communication? Describe the assessment method(s) used. Describe the assessment results if available.

The writing checklist developed by the General Education Committee is used as a tool to assess writing skills in the RET classes. The writing checklist is used early in a student's course work as a pre-skills inventory and in the last quarter of a student's course work as a posttest.

- b. Where within the major do you assess oral communication? Describe the assessment method(s) used. Describe the assessment results if available.

An oral skills checklist developed by the RET department is used to provide formative and summative feedback to students in the program.

This tool was created in response to a need to improve students' affective response to patients. This oral checklist is used to assess a role-play with a practicing physician.

While it can be documented that graduates are capable of verbally communicating with physicians, the employer satisfaction survey indicates that graduates are not showing the initiative to verbally communicate on a regular basis.

- c. Where within the major do you assess thinking? Thinking might include inventing new problems, seeing relationships and/or implications, respecting other approaches, demonstrating clarity and/or integrity, or recognizing assumptions. Describe the assessment method(s) used. Describe assessment results if available.

Critical thinking skills are assessed through a "simulation scenario" format. The introduction of the patient simulator has been highly useful in this process because it creates a more realistic simulation without risk of patient danger. Students must make appropriate decisions based on patient and diagnostic assessment information, assemble equipment correctly, evaluate instruments, interpret data, calculate formulas and medicines, etc. Problem solving and critical thinking skills are reinforced through oral finals of the application of psychomotor and knowledge based skills. There is a five-to-one ratio of students to faculty in the clinical setting, which facilitates student development of critical thinking/problem-solving skills.

The incorporation of this kind of integrated, real-life critical thinking capability is now imbedded into all RET courses

- d. Where within the major do you assess values/citizenship/community? These activities might include behaviors, perspective, awareness, responsibility, teamwork, ethical/professional standards, service learning or community participation. Describe the assessment method(s) used. Describe assessment results if available.

Reinforcement of acceptable professional conduct is emphasized throughout the curriculum. Student and graduate involvement in the community is stressed through informal contact by faculty encouraging student participation. Such skills as confidentiality, trust, caring, and empathy are stressed throughout the curriculum.

Additionally, students volunteer with local service programs including an annual Asthma camp, community lung screenings, fund raising activities for the American Lung Association, etc. This voluntary service reinforces the student's responsibility to the field and community.

- \* Note: The oral communication checklist and the written communication checklist developed by the General Education Committee were adopted for college-wide use during the 1997-1998 academic year by Academic Council. Thinking Guidelines developed by the General Education Committee were piloted by faculty during the 1998-1999 academic year. Currently, a student honor code is being developed and will be piloted Spring 2001.

**VII. Recommendations/Comments:**

More information needs to be addressed in terms of the general education outcomes. SCC should be able to assess student skills upon entry as well as exit, especially in the humanities and computer literacy. Identify what the graduates need.