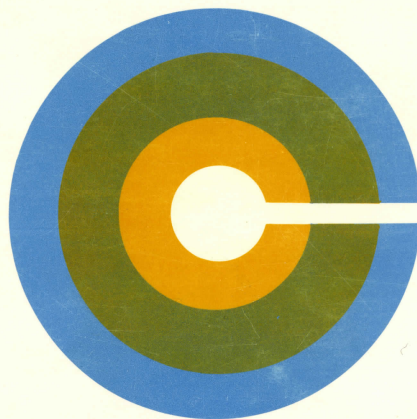




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**REPORT
on the
PROGRAM REVIEW
of the
RESPIRATORY THERAPY PROGRAM**



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**REPORT
on the
PROGRAM REVIEW
of the
RESPIRATORY THERAPY PROGRAM**

PROGRAM REVIEW OFFICE

January 1988

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SUMMARY

The Respiratory Therapy Program at Cariboo College has few problems, and these are relatively minor. However, since its expansion of operations and increase in student intake in September, 1987, it should be stressed that the program's physical facilities and the equipment holdings also urgently need to be expanded; revision of admission criteria and of program curriculum and its integration would also be desirable at this stage of the program's evolution. With these adjustments, Respiratory Therapy will continue to satisfy a heavy Provincial and national demand for its trainees.

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THE PROGRAM EVALUATION COMMITTEE

(November 27, 28, 1986)

PROGRAM RESOURCE PERSONS

Les Matthews
Instructor,
Respiratory Therapy

Val McDougall
Practicum Supervisor,
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Royal Columbia Hospital

**PROGRAM REVIEW CO-ORDINATOR
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Rod Michell
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EXTERNAL REPRESENTATIVE

Mary Rehill
Co-ordinator of
Respiratory Therapy
Northern Alberta Institute
of Technology

THIRD PARTY REPRESENTATIVE

Tom Walton
Instructor, Physics

INTRODUCTION

The Program Review process for the Respiratory Therapy Program was undertaken over the period April, 1986 through October, 1986. The Program Evaluation Committee met to sift and deliberate the data on November 27 and 28, 1986; these meetings produced a letter containing recommendations from Mary Rehill as well as notes made by Rod Michell, from which the Program Review Co-ordinator has constructed the following report. While the data gathered apply mainly to the period 1983-86, and while the Respiratory Therapy Department has already addressed some of the concerns identified, particularly in respect to the criticisms about the Human Biology, English, Mathematics, and Psychology courses, nonetheless much of the data is still valid in that it points to areas where action is still required.

BACKGROUND

The Respiratory Therapy Program at Cariboo College began in September, 1979. It is a three year diploma program, consisting of two eight-month years of instruction at the College followed by 47 weeks of clinical training at an accredited training hospital. Upon successful completion of the three year program, students are issued a college diploma and are eligible to sit the national registry examinations of the Canadian Society of Respiratory Therapists (CSRT), for the professional qualification of R.R.T. (Registered Respiratory Therapist).

The quality of the program has been recognized by the Canadian Medical Association/Canadian Society of Respiratory Therapists Conjoint Committee for the Accreditation of Educational Programs in Respiratory Therapy, which in 1981 and again in 1987 granted the program maximum five-year accreditation status.

METHODOLOGY

A wide variety of methods and materials was used to conduct the review process.

Standardized questionnaires for program review were sent to the Respiratory Therapy Program Advisory Committee members, to employers, to faculty, to program graduates, and to current students (first, second and third year).

Individual and group meetings were held with:

Larry Prins, Chairperson, Allied Health Programs

and

Les Matthews, Instructor, Respiratory Therapy
(October-November 1987)

In addition to the above activities, the Respiratory Therapy Program provided a variety of materials to support the review process. These materials included

CSRT Examination Results

Respiratory Therapy Program Student Manual

Respiratory Therapy Program Course Outlines

Student Evaluation Forms/Questionnaires.

Based on these materials and discussions, a report adhering to the Program Review guidelines was developed. The following pages detail the findings.

DISCUSSION

The following trends were detectable in the questionnaire responses:

Advisory Committee

- The Advisory Committee felt it had sufficient representation from both internal and external groups affected by the program.
- It felt that the program had a satisfactory set of objectives validated by active practitioners.
- It felt that the program provided adequately for the development of positive work habits and attitudes, team work and social skills as well as job-related skills.
- It felt that graduates of the program can readily find training-related employment.
- It felt that admission and selection criteria are in need of fine-tuning.
- Funding was perceived as a problem.

Employer Survey

- Employers were satisfied with the Cariboo College graduates whom they employ.
- Employers feel students are well prepared and require less orientation due to the clinical exposure they receive during the third year of the program.

Faculty Survey

- Faculty were generally very satisfied with the program.
- Insufficient equipment was the only problem perceived.

Current Student - First Year

- Students were very satisfied with career information provided by the instructors.
- Students felt that the library needs more program-related material.

- Students would like more hospital contact.
- Students were generally satisfied with all aspects of Respiratory Therapy courses with the following qualifications:
 - dissatisfaction with the texts and printed handouts in General Chemistry, Communications English, Technical Math. and Mechanical Ventilation I.
 - dissatisfaction with the method of instruction, level of difficulty and relevance of Technical Math. to the program and the workplace.

Current Student - Second Year

- Students are extremely satisfied with faculty.
- Some think that the English course is not relevant.
- Severe negative comments about Psychology course.
- Some students feel that entrance qualifications should be higher.
- Students indicate that they should have more hospital exposure in the FIRST year as well as the SECOND so that they have a better idea about Respiratory Therapy as a career.
- There were a few concerns about the quantity and quality of lab. equipment.
- Students were generally satisfied to highly satisfied with all aspects of Respiratory Therapy courses, with the following exceptions:
 - dissatisfaction with the quality and comprehensiveness of information received on course objectives in Human Biology and General Psychology;
 - dissatisfaction with instructor attitudes to students in Technical Math and English.
 - dissatisfaction with the quality of texts and other printed handouts, with the opportunity for adequate practical experience, with methods of instruction, with the balance between theory and practice, with the effectiveness of the course in preparation for the workplace, and with the relevance of General Psychology to the total program.

- some concern about the quality and quantity of tools and equipment in Blood Gas Analysis and Pulmonary Function.
- some dissatisfaction at the pace of the instruction and volume of material in Pulmonary Function.

Current Students - Third Year

- Students were dissatisfied with the cost of the program (fees, books, etc.)
- Students were very satisfied with the comprehensiveness of the program.
- Students were generally satisfied to very satisfied with the instruction and courses in Respiratory Therapy, with the following exceptions:
 - dissatisfaction with information received on learning objectives and with the method of instruction in Human Biology.
 - dissatisfaction with the quality of texts and other printed handouts in General Psychology and Microbiology.
 - dissatisfaction with the availability and currency of equipment in Anesthesia, Neonatology, Instrumentation 2 and Pulmonary Function.
 - dissatisfaction with the quality of fieldwork experience in Mechanical Ventilation.
 - dissatisfaction with the number and quality of library resources for Pulmonary Function.

Former Student Survey

- Students felt that the information provided on the nature of a career in Respiratory Therapy was inadequate in that they could not formulate an idea of what Respiratory Therapy entailed until well into the program.
- Students would have liked more up-to-date equipment.
- Many students found jobs before they graduated.
- Students felt that more verbal communication skills would be of benefit, but they were satisfied with the written communication skills segment of the program.

- Students were generally satisfied to highly satisfied with the instruction and courses in the Respiratory Therapy Program, with the following exceptions:
 - they were dissatisfied with instructor attitude and overall workload in Human Biology;
 - they were dissatisfied with the relevance of Technical Math. to the total program.

QUESTIONNAIRE DATA
(Respiratory Therapy)

The categories and quantities of responses are tabled below:

Recipient	# Sent	# Completed and # Returned	% Return
Advisory Committee	10	9	90%
Employers	8	7	88%
Faculty	16	11	69%
Students: Former	84	13	15%
Current	59	49	83%
TOTAL	177	89	50%

**Current Students
by Year (April 1986)**

1st Year (Administered in Class)	21	21	100%
2nd Year (Administered in Class)	22	22	100%
3rd Year	16	6	38%

as at 10/24/86

ADMISSIONS DATA

Admission interest has traditionally run well beyond program capacity; in 1986, for example, there were 85 applications for 30 places. This imbalance has been rectified to some extent by increasing the program's capacity to 48 students, or two parallel sections of 24 each, as of 1987.

Entrance prerequisites are currently a minimum C+ average in B.C. Grade 12 or equivalent and C+ performance in Algebra 12, Chemistry 11, and Biology 12. The following general requirements must also be fulfilled: medical examination, immunization, submission of Language Proficiency Index score, interview with College counsellor, and attendance at a program orientation session. In addition, applicants must arrange a visit to a hospital Respiratory Therapy Department prior to being admitted to the program. These requirements constitute a stiffening of admission criteria in response to the high withdrawal of 52% from the 1983-86 class.

Apart from the anomaly of the 1983-86 class, attrition normally runs at approximately 30%. Although no comprehensive data are readily available on reasons for student withdrawal, current and former student questionnaire responses suggest that a salient reason is unfamiliarity with the nature of the program and the work it leads to. Systematic follow-up on reasons for student withdrawal should be undertaken by the department for future reference.

PLACEMENT DATA

Respiratory Therapy prepares its students for positions as hospital respiratory therapists, pulmonary function technologists, home care therapists and technical sales representatives. Such is the demand that employment is immediate: all 43 graduates in the period 1983 - 86 obtained employment. Primarily because of the "hospital network" and to a lesser extent because of advertising in professional publications such as RRT (Canadian), newsletters (Provincial) and three or four widely-circulated American journals, there is no need for a placement mechanism at college level: graduates have no lack of job opportunities, and virtually every graduate of the College program is currently employed.

Demand for Respiratory Therapists is projected to expand at a rate of 16% over the five year period to 1992, or 3% per year, or 5,700 jobs throughout Canada.

Prospects are promising, the only concern being the limitations placed by Federal and Provincial governments on medical expenditures. Currently a Registered Respiratory Therapist can expect to earn approximately \$28,000 in his/her first year of employment.

Females are predominant in this group by a ratio of 3:1. (Job Futures: An Occupational Outlook to 1992 (1986-7 edition) Entry 3156).

Educational opportunities beyond graduate level have been developed by the Respiratory Therapy Department in the areas of Anesthesia (a one-year post-grad. program) and Cardio-Vascular Perfusion (two years). These programs are being used Canada-wide and have won the department national acclaim.

STRENGTHS OF THE PROGRAM

The Program Evaluation Committee identified the following strengths in the Respiratory Therapy Program:

1. The program is unique in British Columbia, the nearest similar programs being at the Northern and Southern Alberta Institutes of Technology. It is a designated "provincial" program, meaning that it enjoys funding priority, and it attracts its clientele from across Canada.
2. Respiratory Therapy is well-served by an Advisory Committee which proportionately represents all groups affected by the program.
3. The Respiratory Therapy staff are perceived by students, employees and advisory committee members as being extremely dedicated and effective. Former students and current students at all three levels praised the quality of instruction and the availability of faculty for extra assistance in almost all the core courses and several of the service courses.
4. The student product is well-received by all employers, and the Cariboo College Respiratory Therapy graduate success rate in the C.S.R.T. examinations indicates that the program is more effective than most other similar programs Canada-wide. Cariboo College Respiratory Therapy graduates as a group have topped C.S.R.T. examinations in four out of the six years since the first graduating class took them in 1982, and came second as a group in one other year. Such performances indicate the thorough training and preparation provided by the Cariboo College Respiratory Therapy program.
5. Curriculum is generally perceived as appropriate, with some minor exceptions.
6. The department has recently earned national acclaim for its development not only of Distance Education modules for Respiratory Therapy, but also of post-grad. programs in Anesthesia and Cardio-Vascular Perfusion. These programs are being used Canada-wide.

AREAS WHICH CAN BE IMPROVED

This section highlights areas of the Respiratory Therapy Program which the data suggest can be improved.

1. Facilities

Lab. space needs immediate attention. Overcrowding is detracting from learning and has become a significant problem with the increase in enrolment from 30 to 48 in 1987. Lab. space will be at a premium as of September, 1988, when two lines will be running at both first and second year level.

In particular, the addition of a patient room with appropriate equipment to provide clinical simulation would be desirable as it would lessen concern about the paucity of hospital clinical experience in the first and second years of the program and would serve to familiarize incoming students with the nature of the work.

2. Equipment

Equipment deficiencies were commented on in the survey responses and by the program evaluation committee. Particularly lacking is sufficient and current Pulmonary Function equipment. Equipment is also lacking in the the Blood Gas Analysis and Mechanical Ventilation sections, and holdings urgently need to be expanded to accommodate increased student numbers.

3. Program Advisory Committee

The data suggests that the Respiratory Therapy Program Advisory Committee has not been meeting as regularly as it should. Cariboo College Policy 2013R stipulates that all advisory committees should meet at least once yearly and that it is the responsibility of the Divisional Director or departmental chairperson to develop the agenda with the committee chairperson. However, as the Conjoint Committee for the Accreditation of Educational Programs in Respiratory Therapy makes twice-yearly meetings a condition of accreditation, the Respiratory Therapy department would be advised to follow this guideline.

4. Admissions Criteria

Discussion of the high withdrawal rate from the 1983 intake suggests that the problem may have been not so much academic weakness but ignorance of the nature of

the program and the career to which it leads. Insistence on a hospital visitation as a prerequisite to entering the program may help to correct this deficiency.

Some attention was also given to the use of reading comprehension tests as predictors of success in the program. Since a large component of the program requires extensive reading comprehension skills, further investigation of the potential of such tests as academic success predictors may be in order.

Furthermore, the critical role of the Counselling Department in screening applicants and introducing them to the Respiratory Therapy Program makes it important to keep counsellors briefed and up-dated on program changes and career alternatives.

5. Curriculum

The student surveys identified the service courses in English, Math. and Psychology as having problems. It was suggested that increased continuity of instructional staffing in these areas would reduce these problems. But the heart of the matter seems to be not so much instructional discontinuity but divergence of educational philosophies between the Respiratory Therapy core courses and the service courses. Core courses are information and training-oriented; service courses such as English and Math. are geared to verbal and numerical problem-solving. Students accordingly experience confusion at being expected to operate at one level of Bloom's Taxonomy in the core course, but at another in English and Math. It is worth noting, however, that criticism of service courses diminishes as students proceed through the program, to the point where former students are only mildly--if at all--critical of these courses. This trend suggests that students gradually acquire a sense of the educational relevance of the whole program, and see the service courses less and less as mere adjuncts.

In addition, the absence of prerequisites to the Respiratory Therapy English course--other than a pass in Grade 12 English--makes for a wide range of entrance skills among students in that class, with the result that a curriculum appropriate to all students is hard to construct. It is noted that performance minima are set for other high school program entrance prerequisites such as Algebra, Chemistry and Biology, all of which stipulate a C+ achievement; a C+ achievement might also be considered for English 12.

RECOMMENDATIONS

The following recommendations emerged from the Program Evaluation Committee's discussions:

1. Facilities

In view of the increased pressure on the Respiratory Therapy lab. facilities and the projected continuing high demand for trained Respiratory Therapy personnel, it is recommended that expanded lab. space be given priority by the Science and Health Sciences Division.

It is also recommended that a patient room be incorporated in the expanded facility, so as to alleviate the concern about the lack of hospital access in the first two years of the program and familiarize students more quickly with the nature of the work.

2. Equipment

The Respiratory Therapy program should prioritize Pulmonary Function equipment for immediate acquisition. Acquisitions should also be budgeted for in the Blood Gas Analysis and Mechanical Ventilation sections. The department should investigate the possibilities of equipment lease or shared resources as alternatives to costly capital equipment purchases.

3. Advisory Committee

The Chairperson of Allied Health Programs and the Director of the Division of Sciences and Health Sciences should ensure that the Respiratory Therapy Program Advisory Committee meets at least twice a year, as per Conjoint Committee for the Accreditation of Educational Programs in Respiratory Therapy guidelines.

Admissions-Related

4. Calendar copy should reflect the mandatory nature of the hospital visitation as a program admission criterion.
5. Respiratory Therapy faculty should explore the potential of a reading comprehension test such as the Nelson-Denny for incoming students, and should keep statistics from year to year on the reliability of such a test as a predictor of student success.
6. The Respiratory Therapy program faculty should consider the institution of performance-level pre-requisites in all high school subjects when these subjects will be taken at postsecondary level.
7. The Counselling Department should be kept abreast of changes in the Respiratory Therapy program and career possibilities it may lead to by means of regular exchanges of information.
8. The Respiratory Therapy program faculty should institute systematic analysis of reasons for student withdrawal, perhaps by initiating mandatory exit interviews.

9. Curriculum

The Respiratory Therapy program faculty should work towards reconciling the various course objectives and performance expectations throughout the program, especially in the service course area. Such program integration should entail collaboration with service course personnel and increased emphasis on "selling" the program to the students as a total educational package.

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REPORT ON THE PROGRAM REVIEW OF

**RESPONSE
TO THE
PROGRAM REVIEW
OF THE
RESPIRATORY THERAPY PROGRAM**

The following responses address the program review recommendations found on pages 13 and 14 of the report.

1. Facilities

The lab is scheduled for expansion into room 211 during the summer of 1988. It is critical that this renovation be completed by September 1988 as the expanded class in second year will be on line.

A patient room will be designed into room 211, this will require some additional capital funds.

2. Equipment

The program received \$26 thousand for the purchase of mechanical ventilation equipment this year. Further funding will be required to update and maintain the pulmonary function and blood gas equipment.

I should note that we are purchasing a used pulmonary function machine from St. Pauls hospital in the near future. This will partially alleviate problems with PF equipment.

3. Advisory Committee

The Advisory committee is functioning well and meeting twice a year as recommended by the Conjoint Committee for Accreditation.

Admissions-Related

4. The calendar does state the mandatory nature of the hospital visitation as a program admission criterion.

5. The Nelson-Denny reading comprehension test was used for 5 years for all applicants to the Respiratory Therapy program. Richard Barnett's study did not show a correlation that was useful for admission purposes.

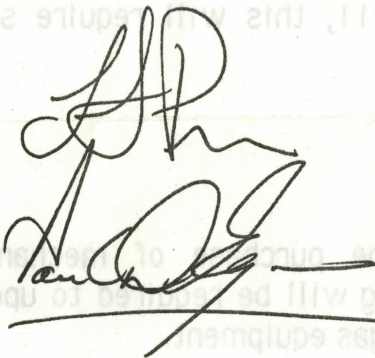
6. The english pre-requisite has been changed to C+ for English 12.

7. We continue to keep an open dialogue with the Counselling department and will endeavour to keep it this way.

8. The Chairperson does mandatory exit interviews with all students.

9. Curriculum

The program is organizing a curriculum review to be conducted in the summer this year. This will include service, clinical, and core instructors.



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