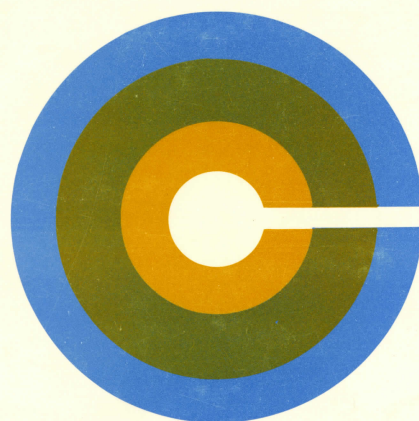




REPORT
on the
PROGRAM REVIEW
of the
PRACTICAL HORTICULTURE PROGRAM



Cariboo College

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REPORT
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PROGRAM REVIEW
of the
PRACTICAL HORTICULTURE PROGRAM

OFFICE OF INSTITUTIONAL RESEARCH & EVALUATION

February, 1989

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SUMMARY

The Practical Horticulture Program offered at Cariboo College is unique in its "hands-on" grounds maintenance component.

The Program Evaluation Committee has found that the program is serving the needs of the students and employers. The strengths of the program are the instructional and interpersonal skills of the staff and those portions of the curriculum that deal with landscape design and grounds maintenance.

The Program Evaluation Committee also found that there is general dissatisfaction with the facilities and equipment, which is a funding issue, and with the communications skills, retailing and carpentry portions of the curriculum.

The recommendations deal with improving the use of the available resources and facilities and with making changes to the inadequate portions of the curriculum.

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THE PROGRAM EVALUATION COMMITTEE

(December 12 and 13, 1988)

COMMITTEE CHAIRPERSON

Alan Green
Instructor,
Electronics

FACULTY REPRESENTATIVE

Marg Bangen
Co-ordinator,
Medical Laboratory
Technology Program

EXTERNAL REPRESENTATIVE

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Former Student &
Landscaper,
Clearwater, B.C.

PROGRAM RESOURCE PERSON

Steve Wong
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Alastair Watt
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Evaluation

DIRECTOR, SCIENCES/HEALTH SCIENCES

Colin James (ex-officio)

DATA ENTRY/CLERICAL SUPPORT

Brenda Comazzetto
Institutional Research &
Evaluation Clerk

INTRODUCTION

The Program Review process was undertaken for the Practical Horticulture Program over the period August, 1988, through December, 1988. Initial data were solicited from the Divisional Director, Sciences/Health Sciences, in August, 1988. Questionnaires were mailed to former students on September 26. Second mailings took place on October 17. Employer questionnaires were mailed October 3. Faculty surveys were distributed and current student surveys were administered on November 2. Telephonic contact was made with non-respondents in the former student, advisory and employer groups between November 7 and November 9. The cut-off date for all responses was November 22. The Program Evaluation Committee met to sift and deliberate the data on December 12 and 13, 1988.

BACKGROUND

Practical Horticulture started in 1979 as an eight month program under the direction of instructor Al Oliver. In 1982, Steve Wong was appointed instructor to replace Al Oliver. Between 1979 and 1983, the program operated with only one instructor and no laboratory demonstrator; however, this situation was rectified in August, 1983 with the appointment of Dale Wilkie. In 1984, the program changed to a seven month format, and in 1985, to a 37 week format (August through April). Ernest Phillips replaced Dale Wilkie as laboratory demonstrator in December, 1986.

The program is one of three one-year entry level horticulture programs in British Columbia, the other two being at Capilano College and B.C.I.T. The College program specializes in grounds maintenance and landscaping. There are also three two-year horticulture programs offered in the Province, at B.C.I.T. and at Malaspina and Fraser Valley Colleges.

METHODOLOGY

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

Standardized questionnaires were sent to the Practical Horticulture Program Advisory Committee members, employers, faculty, program graduates, and current students.

Colin James, Divisional Director, Sciences/Health Sciences and Steve Wong, Instructor, Practical Horticulture, provided historical and descriptive data on the program. Wayne Hollingshead, Chairperson, Agriculture Related Programs, provided a brief summary of his perceptions of the program.

In addition, Steve Wong provided a variety of materials in support of the review process:

Course outlines for the following:

Hort 150	Basic Horticulture
Hort 151	Greenhouse Production
Hort 152	Diseases and Insect Pests
Hort 153	Nursery Production
Hort 154	Soil Science
Hort 170	Practicum 1
Hort 160	Weeds
Hort 161	Retailing
Hort 162	Fruit and Vegetable Production
Hort 163	Landscape Design, Installation and Maintenance
Hort 164	Turfgrass Management
Hort 180	Practicum 2

Lab Manuals for the following:

Hort 170	Practicum 1
Hort 180	Practicum 2

Practical Horticulture Students' Handbook 1988/89

Timetables (Instructor and Student)

The Registrar's Office provided the following:

Practical Horticulture Admissions Package
Program Capacity/Demand Information
Grades Distribution Summary

DISCUSSION

Advisory Committee and Employer questionnaire responses registered at 78%. Faculty response rates were similarly high, with only one ancillary course instructor failing to respond, and 17 of the 18 current students were surveyed.

In the Former Student category, the 38% response rate is within the normal range of response rates from former students in other programs so far reviewed, and compares favourably with response rates registered by former student cohorts in other Vocational programs, such as Electronics, with an 18% response rate in 1986, and Carpentry, with a 32% response rate in 1988.

QUESTIONNAIRE DATA

The following trends were detected in the questionnaire responses:

Advisory Committee Survey

- The Advisory Committee does not feel it effectively fulfills its role and responsibilities in providing assistance in promoting the program and maintaining liaison between the College and relevant businesses, industry and employers.
- Committee members expressed some concern that the program does not provide for the development of oral and written communication skills.
- They feel that there should be more than one formal meeting per year.
- They expressed concern about the level of funding to the program for facilities (greenhouse) and capital equipment.
- They expressed concern about the level of staffing in the program.
- They feel that the campus grounds maintenance component is a very important part of the program.
- They complimented the Horticulture faculty on the quality of instruction and faculty-student rapport.

Employer Survey

- Although there was a small sampling of employers, most reported that program graduates display excellent practical, hands-on skills.
- Employers indicated that the writing skills of Cariboo College Horticulture graduates could be improved.

Faculty Survey

- Faculty members feel written and oral communication skills must be improved.
- Concern was expressed about availability of funds and time for curriculum development.
- Faculty feel there is insufficient staff to both operate the program and maintain the campus grounds.
- They expressed concern about facilities, especially greenhouse and storage space.
- Concern was expressed about the retailing component of HORT 161 and the carpentry component of HORT 170.
- Faculty are satisfied with the small engine component of HORT 170.
- Concern was expressed about some aspects of student services, specifically admissions, learning assistance and financial assistance.
- They expressed the need for a printer and a desk-top computer.

Current Student Survey

- Students expressed dissatisfaction with the admission process and the inaccessibility of information on their placement on waiting lists for the program.
- They expressed concern about several aspects of student services including career planning, counselling and financial assistance.
- They were concerned with the facilities and equipment available to the program.
- They felt isolated from the main campus.
- In general, students praised the Horticulture instructors and program.

Former Student Survey

- Former students expressed some dissatisfaction with the retailing component of HORT 161 and the carpentry component of HORT 170.
- They liked the small engine component of HORT 170.
- They were not confident about job prospects and indicated that formal program orientation and career counselling might overcome this uncertainty.
- They identified "cost estimates and tenders" as an area that should be addressed in the program.
- There was an apparent lack of knowledge of what constitutes a "communications" course.
- They expressed concern about the suitability of existing facilities and equipment.
- They recognized the value of the practical grounds maintenance component of the program.
- Many respondents indicated an interest in furthering their education, particularly in the areas of Landscape Design, Disease and Pest Control, and Business courses. Some students expressed interest in a two-year Horticulture program.
- Former students were very complimentary about the Horticulture faculty's instructional expertise.

QUESTIONNAIRE DATA

Practical Horticulture

The categories and quantities of responses are tabled below:

Recipient	# Sent	# Completed and Returned	% Return
Advisory Committee	9	7	78%
Employers	9	7	78%
Faculty	5	4	80%
Students: Current	17	17	100%
Former	90	34	38%
TOTAL	130	69	53%

*Former Students by Year

1983 intake	18	5	27%
1984 intake	19	9	47%
1985 intake	18	4	22%
1986 intake	15	4	27%
1987 intake	20	12	60%

Returned by Post Office (all years)	26	29%
Non-respondents	30	33%

As at November 23, 1988

ADMISSIONS DATA AND PERFORMANCE STATISTICS

Admissions Requirements:

B.C. Grade 10 or equivalent

Applicants should be in good physical condition.

Applicants should have a strong desire for hands-on work with plant materials.

Persons with strong allergies to dust or pollen should be wary of entering the program.

Applicants should attend an orientation session.

Applicants should apply early as space is limited.

Program Capacity/Program Demand over past five years:

Program Capacity: 20

<u>Year</u>	<u>Applicants</u>	<u>Admissions</u>	<u>Graduates</u>	<u>Attrition</u>
1984/85	31	19	14	5
1985/86	21	18	14	4
1986/87	34	15	12	3
1987/88	28	20	19	1
1988/89	20	20		

Gender Ratio (female to male):

1983	11 Female 8 Male	3:2
1984	12 Female 7 Male	2:1
1985	6 Female 12 Male	1:2
1986	10 Female 5 Male	2:1
1987	15 Female 5 Male	3:1
National average:	16% Female 84% Male	1:4

The gender ratio in the Practical Horticulture Program runs in the face of national trends.

Attrition over past five years:

Generally, one or two students drop out per year, usually within the first few weeks of the program. Most the dropouts appear unprepared financially, emotionally or family-wise for the rigours of returning to school. Frequently, these students are late-comers, called to fill in at the last minute because of the poor scheduling of the pre-billing period. A compulsory orientation may aid in reducing the attrition. Failures: generally one per year.

<u>Year</u>	<u>Actual #</u>	<u>Attrition %</u>
1983/84	0/18	0%
1984/85	5/19	26.3%
1985/86	4/18	22.2%
1986/87	3/15	20.0%
1987/88	1/20	5.0%

Average attrition over five years: 14.7%

Attrition compares favourably with that of other low-attrition programs, such as Medical Laboratory Technology's 12.4% and Electronics' 22.5% over a similar five year period.

PLACEMENT DATA

Types of Employment:

Most graduates find employment in landscaping and grounds maintenance. In the past, a significant number of graduates found employment with the Kamloops Parks. Other areas of employment are (in decreasing order): garden centres, interior plant maintenance, irrigation supply, research stations, greenhouses and fruit production.

Placement Mechanisms:

The two program instructors are deeply involved in the placement of the graduates, although the assistance they offer is on an informal basis. They act as resource people, and arrange practicums and permanent employment in job-related fields. They maintain lists of potential practicum participants and of potential employers.

Current Salaries:

The median starting salary for Horticulture graduates is currently just under \$1,500 per month, with lows of \$1,050 and highs of \$2,000 per month. Because work in the Horticulture field tends to be seasonal, annual salaries vary greatly.

Job Opportunities Projection:

The Statistics Canada projection for job opportunities in Practical Horticulture and related fields (Landscape Gardening, Greenskeeping, etc.) is an 8.4% increase between 1985 and 1992, or 1.2% per year on a workforce of approximately 62,000. This, coupled with an estimated 10.3% withdrawal from the labour force due to retirement, career change, etc., makes for a healthy 18.7% vacancy rate over the next few years, or 2.4% per year (just under 1500 jobs per year nation-wide).

Locally, the prospects are less rosy. Our seven employer contacts collectively project only two full time jobs and seven part-time jobs becoming available in 1989. Clearly, Practical Horticulture graduates should anticipate relocation as a pre-requisite to employment.

Further Education Opportunities:

Graduates can obtain a Horticulture/Business Diploma by completing a prescribed set of business courses at the College. Many of these are offered in the evening, and can be taken on a part-time basis. To date, however, there has been virtually no interest in this program, with only one registrant and no diplomas granted since its inception in 1985.

Graduates can also transfer into the two-year programs at BCIT, Malaspina, Fraser Valley and Olds Colleges, or obtain advance credit towards the Ontario Diploma of Horticulture offered by the University of Guelph.

STRENGTHS OF THE PROGRAM

The Program Evaluation Committee identified the following strengths in the Practical Horticulture Program:

1. The quality of instruction and the rapport and respect between faculty and students are rated "excellent" by the Advisory Committee, employers, current students and most former students.
2. The skills and personalities of the faculty complement one another.
3. Having students act as groundskeepers is a unique practical experience and an integral part of the program.
4. Most employers feel that the program is providing a good preparation for work in the horticulture field; the 70% employment rate among graduates of the program bears this out.

AREAS WHICH CAN BE IMPROVED
(WITH RECOMMENDATIONS)

This section highlights areas of the Practical Horticulture Program which the data suggest can be improved. The recommendations are prioritized, with funding and facilities being the main areas that the Program Evaluation Committee identifies for improvement.

1. Funding, Staffing and Facilities

The Advisory Committee, faculty, current students and former students identified funding and facilities as major areas of concern in the Practical Horticulture Program. However, Program Evaluation Committee discussions ascertained that some confusion exists as to the budgetary relationship between the Horticulture Program operation and the grounds maintenance function. Therefore, the Program Evaluation Committee recommends

- a) that those concerned with the operation of the Horticulture Program -- the Vice-President, the Divisional Director, Sciences/Health Sciences, the Chairperson, Agriculture Related Programs, and the Horticulture Instructor and Laboratory Demonstrator -- meet to clear the air of misunderstandings about budget allocation procedures pertaining to program operation and grounds maintenance.

The Horticulture faculty commented on the fragmented nature of time available in May, June and July each year for curriculum revision and supplies inventory and ordering. To combat this, the Horticulture instructor has arranged six weeks' professional development for himself each year by compressing the normal ten-month vocational instructional period into nine. Moreover, the College has recently acknowledged the need for the instructor's extended professional development by granting him study leave for the 1989/90 session. Nevertheless, the Committee recommends

- b) that funds currently identified in the Horticulture budget for part-time staff be reviewed and increased if necessary to provide for the hiring of a relief supervisor of grounds maintenance for a minimum six week period each year; this period may be extended at the Divisional Director's discretion, if he deems it necessary to allocate professional development time to the Horticulture Laboratory Demonstrator.

This will have the effect of freeing the Horticulture instructor and, if necessary, the Horticulture Laboratory Demonstrator, from grounds maintenance supervisory duties for a period of up to three months' total (at the Director's discretion) for supply inventory and ordering or professional development.

As this may be construed by some parties as merely a stop-gap measure, the Committee further recommends

- c) that the Horticulture faculty develop and document a case to substantiate their perceived need for a six to eight month per year grounds maintenance position by investigating such factors as the overlap of the Horticulture Laboratory Demonstrator's functions with those of grounds maintenance from March through October; the potentially hazardous nature of the machinery operated during program practicums; the large size of the "laboratory" area, covering as it does the College grounds; student/staff ratios in other one-year Horticulture programs in B.C. and in comparable practicum-oriented vocational programs; and such Workers' Compensation Board safety regulations that may be applicable to instructor/student ratios in Practical Horticulture. Then, if the evidence warrants it, a request should be made to the Divisional Director and the Vice-President for additional staffing.

The Advisory Committee, faculty, current and former students all commented on the need for improved facilities and equipment. The principal concern was lack of greenhouse and storage space. Given the longevity of the program -- it started in 1979 and has been on base budget since 1983 -- it seems reasonable to invest funds in the renovation of existing facilities and the establishment of new ones. Therefore, the Program Evaluation Committee recommends

- d) that the Director of Sciences/Health Sciences prioritize and vigorously pursue a request for funds to build a new greenhouse, estimated at \$18,000;
- e) that the existing main floor of House 9-B (currently the little-used Anthropology Laboratory) be utilized as an on-site laboratory/resource room for the Practical Horticulture Program;
- f) that the Horticulture faculty and Departmental Chairperson, Agriculture Related Programs, actively pursue the acquisition of a p.c. and printer for the Practical Horticulture Program;
- g) that while the Sciences/Health Sciences Division continue to provide the equipment necessary to meet the needs of the program, the Horticulture faculty be encouraged to examine innovative means of obtaining equipment that would enhance program operation; and that the Horticulture faculty continue to organize existing space in their facility as efficiently as possible.

2. Curriculum

Core Courses

The Advisory Committee, the faculty and the former student surveys all indicate that the grounds maintenance experience that the students receive is excellent and should be continued. Therefore, the Program Evaluation Committee recommends

- a) that the grounds maintenance component of the program be continued because it provides the students with valuable experience and allows for honest evaluation of students skills, work habits and attitudes.

The former students survey indicates that some instruction on estimating and bid submission would be a useful addition to the program. Therefore, the Program Evaluation Committee recommends

- b) that the faculty add a short section on bidding and estimating to the Practical Horticulture Program. These topics could be combined with a unit of Communications.

Service Courses

The Advisory Committee, the employers and faculty surveys state that Horticulture graduates' communication skills could be improved. Therefore, the Program Evaluation Committee recommends

- c) that the Practical Horticulture Program introduce a Communications course of approximately 52 hours covering job search techniques, resume writing, submission of bids, report writing, business letters, etc.;
- d) that other courses be reviewed and revised so that the increase in total classroom hours caused by the introduction of Communications is minimal.

Both current and former students indicate that there is insufficient emphasis in the program on where and how to seek employment. Accordingly, the Committee recommends

- e) that the job search component of the new Communications course be scheduled in late November each year so that students may use the Christmas break to arrange their own practicum placements for the following spring.

The faculty and the former student surveys indicate general dissatisfaction with the retailing component of HORT 161. Therefore, the Program Evaluation Committee recommends

- f) that the retailing component of HORT 161 be revised to suit needs of Practical Horticulture students and be taught by Horticulture staff. This revised component should deal with sales, displays, etc.

The faculty and former student surveys indicate that the carpentry component needs to be reviewed so that the content realistically addresses the needs of the students and the work place, and so that the objectives can be realized within the time allocated for this component. Therefore, the Program Evaluation Committee recommends

- g) that the carpentry component of HORT 170 be re-organized in accordance with the needs of Horticulture students; that the Horticulture faculty set and communicate clear objectives that are realizable within the time allocated for this component; and that the faculty consider installing power tools frequently used by students in the new shed.

Continuing Education

Former student survey respondents expressed some interest in furthering their education through more advanced training. Therefore, the Program Evaluation Committee recommends

- h) that the Division of Sciences/Health Sciences explore the possibility of instituting a two-year Diploma Program, as identified in its Five Year Plan.

In discussion, the Program Evaluation Committee found that the Horticulture/Business Diploma Program was under-subscribed, having attracted only one registrant in its five year existence. Therefore the Program Evaluation Committee recommends

- i) that the Horticulture/Business Program concept be extended to a number of other programs, eg. Mechanics/Business, Electrical/Business, CADD/Business, or, alternatively, deleted from College program offerings.

3. Administration

Several of the current students felt that the service they received from the Registrar's Department was less than satisfactory. Prospective students were frustrated when personnel in the Registrar's Office were unable to inform them on their chances of being registered in a specific program. There is also difficulty co-ordinating with Canada Manpower, which keeps its own list of sponsorable clients. Therefore, the Program Evaluation Committee recommends

- a) that the Registrar's Office inform prospective students on request of their placement on the waiting list (or application list);
- b) that the Registrar's Office co-ordinate more closely with CEC, and compare names on College lists with those on CEC lists so as to remove duplications;
- c) that the Registrar advance pre-billing dates for the Practical Horticulture Program by one month so that all three billings are completed before Horticulture classes begin in August.

The faculty identified several errors in the Calendar and on the Horticulture Program Fact Sheet which cause confusion and consternation among prospective students. Therefore, the Program Evaluation Committee recommends

- d) that the Calendar and Fact Sheets be carefully proof read by the Registrar's Office, the Public Relations Officer, the appropriate Department Chairperson or Co-ordinator and other concerned faculty before they are duplicated and distributed.

Former students' responses and Program Evaluation Committee discussion suggest that formal orientation sessions are desirable to reduce student attrition and frustration. Therefore, the Program Evaluation Committee recommends

- e) that the program co-ordinator implement mandatory formal orientation sessions each year and arrange for guest speakers from the Awards and Counselling Departments to attend.

The student surveys indicate that students have received inaccurate information about the Practical Horticulture Program from the Counselling Department. Therefore, the Program Evaluation Committee recommends

- f) that the Counsellors and the Practical Horticulture faculty liaise more often so that the correct information may be distributed to students.

The current student survey expressed dissatisfaction with the service students received from the Awards Office. The indications are that Victoria is partially to blame for the long time it takes for the loans to be processed but that the College must share some of the responsibility. Therefore, the Program Evaluation Committee recommends

- g) that the Director of Student Services hire more staff in times of heavy workload;
- h) that the Director of Student Services convey to Victoria our concerns about the length of time it takes to process loans.

The Advisory Committee survey indicates that the members are somewhat confused about their role. Therefore, the Program Evaluation Committee recommends

- i) that the Vice-President clarify and re-write Items 3 and 6 of the Terms of Reference for Advisory Committee Members (Cariboo College Policy Manual 2013.R, page 2).

In discussion, concern was expressed that members on the Advisory Committee be changed on a regular basis so that new ideas can be brought forward. Therefore, the Program Evaluation Committee recommends

- j) that the President appoint members of any Advisory Committee for a maximum of four years (two two-year terms).

In discussion, it was learned that a major road may cut through the campus near the Horticulture facilities, reducing the size and effectiveness of the nursery. The members of the Program Evaluation Committee believe that this road will further isolate the faculty and students from the rest of the campus. Therefore, the Committee recommends

- k) that the College negotiate with the City of Kamloops and the Province to minimize the effect of the Hillside Drive extension, and that the Director of Sciences/Health Sciences be kept up to date on the placement of this thoroughfare so that he can advise the Horticulture staff accordingly.

4. Advisory Committee

The Advisory Committee survey suggests that Advisory Committee members feel they do not effectively fulfill their responsibilities of promoting the Horticulture Program and maintaining liaison between the College and industry. Therefore, the Program Evaluation Committee recommends

- a) that the Advisory Committee raise public consciousness of the Horticulture Program by consulting more widely with employers on a wide range of issues;
- b) that the Advisory Committee compile an inventory of employers who hire graduates of the Program and make this inventory available to current students seeking employment.

The members of the Advisory Committee have said that they would prefer to have at least two meetings each year. Therefore, the Program Evaluation Committee recommends

- c) that the Advisory Committee have two meetings a year at approximately six month intervals and that the Departmental Chairperson or Divisional Director distribute a newsletter reviewing the program activities since the Committee last met along with the agenda for the next meeting.

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