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VANCOUVER COMMUNITY COLLEGE VANCOUVER VOCATIONAL INSTITUTE

1979 ANNUAL REPORT (1979 04 01 - 1980 03 31)

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I. BUSINESS AND HEALTH DIVISION

1. BUSINESS CAREERS PROGRAMS

- (a) Program Content Guides were developed for all eleven programs in the department and Course Content Guides have been started.
- (b) The R.A.C. for the Industrial Records and First Aid program was converted to permanent status. Job prospects for graduates are extremely good and the wait list for entry to the program is substantial.
- (c) The R.A.C. for the Merchandising program was extended for another year. A Program Advisory Committee was formed and has met once. Job prospects for graduates of this program are excellent.
- (d) The five month Hospital Clerical Worker program was established to train people for hospital positions such as: Unit Nursing Clerk, Admitting Clerk, Medical Records Clerk and Radiology Clerk.
 All students from the first graduating class found employment. A second R.A.C. for this program has been initiated.
- (e) The Part-Time Business Careers programs had a successful second year of operation with registrations of approximately 1,447. Any increase in registrations is limited by space availability.

(f) There has been a large demand for Typing 4 (Word Processing Equipment) which was first offered in the summer of 1979. The demand presently is being met with limited equipment. This factor, plus the limited time in students' schedules, allows them only an introduction to this equipment.

Therefore, a new program has been proposed entitled "Word Processing Operator" which would be ten months in duration. A Program Content Guide is being developed. The present course would be retained for students in other programs (e.g. Legal Secretarial, Secretarial, etc.)

- (g) Members of the department attended three conferences of the Provincial Business Education Coordinating Committee and the Business Education Articulation Committee and, as a result, articulation has been completed in the following areas: Typing 1 and 2 and Business Communications 1 and 2. The next courses to be reviewed are Accounting, Marketing and Office Practice.
- (h) A plan to reorganize the department's instructional method in the full-time programs was developed, for implementation in October of 1980. It will make the self-paced instructional method more effective by promoting students' identification with the program they select.

Courses will be taught on a program basis (i.e. all Legal

Secretarial students will be grouped in one classroom, all Accounting students in one classroom, etc.) rather than the present random grouping as a result of individual selection of courses, determined by space availability.

2. DENTAL PROGRAMS

(i) DENTAL ASSISTING PROGRAM

- (a) The process of having the Dental Assisting program accredited with the Canadian Dental Association was started. An accreditation survey manual is being prepared and a survey team from the Association will visit V.C.C./V.V.I. in the fall of 1980 to evaluate the program.
- (b) From September to December of 1979 the scheduling of day classes was changed in order to make better use of the limited space. Previously all 48 students attended from 08:00 to 15:00. In the new system, students were divided into three groups of 16, with 32 attending from 08:00 to 15:00 and 16 from 11:00 to 18:00 hours. In this way instructors were able to work with smaller groups of students. Also, a two-day rotation in the areas of laboratory and radiology procedures, clinical techniques, theory (e.g. basic sciences, anatomy, etc.) and practice management was introduced in order to give students a more intense form of instruction.

- (c) Students' experience in dental offices was expanded. Students now spend one day doing reception work in a dental office, prior to their first practicum. In addition to reinforcing the skills the students learn in the Practice Management ourse, it has had the added benefit of establishing a good papport with the dental office, making it easy to place the student for the first practicum in the office in which she/he did the reception work.
- (d) The system of instructing the part-time upgrade courses was improved. When the upgrade courses were first implemented, two instructors carried most of the load, teaching one course while preparing the one to follow, with courses changing every month to two months. Now the 20 courses are taught by approximately 15 instructors, each choosing specific courses within their area of expertise.

(ii) DENTAL TECHNICIAN/MECHANIC PROGRAM

(a) At the request of the Apprenticeship Branch of the Ministry of Labour, the Coordinator of the program prepared curriculum for the Dental Technician/Mechanic Pre-apprenticeship and Apprenticeship programs. These programs, the only ones in the province, will now have defined objectives in all levels and courses.

Theory exams in several courses were revised and some work was done on part-time upgrading course content.

- (b) The Pre/Post Evaluation Skills Test, developed at V.C.C./ V.V.I., at the request of the Dental Technician/Mechanic Trade Advisory Committee in 1977 and formerly called the Dexterity Pre-Test, has undergone further validation study. As well as being given to pre-apprenticeship classes, it was independently evaluated and the findings were favourable. The test assesses several skills and would enable skills to be tested at the beginning and at the end of a program or course,
- (c) Two Program Advisory Committees were formed one for the Dental Technician program and one for the Dental Mechanic program. Initial meetings have been held and Chairmen chosen.
- (d) Dental Technician and Dental Mechanic Provincial Qualifying Examinations were conducted at the V.C.C./V.V.I. laboratory facilities. It is likely that the demand for this will increase since the V.C.C./V.V.I. facility is the only one of its kind in the province.

3. NURSING PROGRAMS

(a) An R.A.C. program was established for upgrading to certifi-

cation of the Nursing Aides and Activity Aides (aides to physiotherapists) employed by the Shaughnessy Hospital. This Long Term Care Resident Aide Upgrade program is unique from the point of view of its rehabilitation philosophy towards the resident/patient, rather than a custodial philosophy. A Program Content Guide was developed and the program commenced in January of 1980. A new course commences every five weeks and the program should be complete by September of 1980. An evaluation will take place in May of 1980.

(b) The proposal to develop a bridging program between the V.C.C./V.V.I. Licensed Practical Nursing program and V.C.C./ Langara's Registered Nurse program reached the completion stage – program content will soon be finalized and a date chosen for its commencement at V.C.C./Langara. This program will enable Licensed Practical Nurses to access into V.C.C./Langara's Registered Nurse program.

V.C.C./V.V.I. continued to insert unsuccessful students of the two-year Registered Nurse program and the three-year School of Nursing program into the Licensed Practical Nurse program at appropriate levels.

(c) The first class of Nursing Orderlies completed the program in May of 1979 with a total of ten graduates. Job opportunities are

good - the department receives inquiries from hospitals periodically to find out when there will be more graduates.

II. INDUSTRIAL DIVISION

1. DRAFTING

- (a) Part-time training was introduced in September of 1979. Level 1, Basi · Drafting, was offered to three full classes of 18 students each. One class was given on Monday and Wednesday evenings, a second class on Tuesday and Thursday evenings and the third class on Saturday. The succeeding levels of the program will be phased in every September over the next four years.
- (b) The possibility of introducing industrial math into the curriculum has been examined, as well as improving pre-counselling services and evaluating students' progress earlier in the program in an effort to reduce attrition. The department has been actively involved in evaluating prospective students and inserting them into the program at appropriate levels.
- (c) Work has commenced on preparing a revised Program Content Guide. Input has been received from Program Advisory Committees which were reactivated into three separate groups: Architectural/ Mechanical Drafting, Architectural/Civil-Structural Drafting and Steel Design Detailer.
- (d) A total of 88 students graduated in 1979. Employment opportunities are excellent - the last graduating class was placed

within a two day period and at present there are more jobs available than there are graduates.

2. ELECTRICITY AND INDUSTRIAL ELECTRONICS

- (a) The number of students in this program was doubled by adding two more classes which operate from 12:00 to 17:00 hours. Three new instructors were hired by the department.
- (b) Most graduates of the program have obtained employment at a time when the job situation was considered unfavourable.
- (c) One of the instructors from the department was seconded for a two year period to work for the Canadian International Development Agency in Borneo.

3. ELECTRONICS

- Part-time training was started in September of 1979.
 Level 1 of the Electronics Technician program was offered and due to the large demand for the program, three classes were formed.
 Two are evening classes and the third is held on Saturday.
- (b) Several short Contract Courses were held for both the Canadian Broadcasting Corporation and the Department of Communications Canada.

- (c) Tutorials conducted by the Instructional Assistant were introduced during the hour before regular classes commence at 08:00. Student response to the tutorials has been good.
- (d) Lab capability was greatly enhanced by the installation of several new communication systems under the direction of one of the department's instructors. In addition, new workbenches were installed.
- (e) The student body is larger than ever and the employment picture for graduates has never been better. Virtually every capable graduate is able to find suitable employment.

4. PROGRAM DEVELOPMENT

- (a) The following projects were undertaken by the department for the Ministry of Education:
 - (i) providing Facilitator training for the province-wide delivery of the Instructional Skills Workshop program;
 - (ii) participating in an instructional skills developmentproject with the Justice Institute of B.C.;
 - (iii) conducting a program development project related to
 Medical Office Assisting, Medical Stenography, Dental
 Reception and Hospital Clerical Worker;
 - (iv) developing examination questions, answer keys and grading structures for the 3rd and 4th certificate level of Power

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Engineering:

- (v) working in conjunction with the V.C.C./V.V.I. Power Engineering department to develop two lectures on "Plant Administration";
- (vi) assisting in the revision and metrication of several lectures of the Power Engineering Correspondence program;
- (vii) developing statements of prerequisites, performance objectives, instructional objectives and assessment standards and procedures for Levels C, B and A of the Welder Training program;
- (viii) developing core and option systems for Electronics programs
 in B.C.;
- (ix) developing a provincial core program for the Drafting
 program.
- (b) A number of Program Content Guides were revised and a systematic annual review of all Program Content Guides was initiated in order to ensure an ongoing and up-to-date picture of program content. As well, preparation of Course Content Guides has been started.
- (c) Several workshops were held throughout the year for faculty, staff and management in such areas as Instructional Skills, Supervisor Training, and Time Management for Educational Administrators.

- (d) Requests by V.C.C./V.V.I. departments for first aid training for their students continued to grow. Over 1,000 students received training in various areas of first aid over the year.
- (e) The Computer Assisted Education operation has become more visible over the past year. Computer Use Workshops were conducted whereby faculty and staff became more aware of the potential aid to be offered in reinforcing training, self study and testing. The minimal amount of equipment available, however, limits use.

III. SERVICE DIVISION

1. BARBERING

(a) The Course Content Guides for this program have been started and the Program Content Guide has been revised to reflect four levels of training, as opposed to the former three levels. Levels 1 and 2 are taught from 08:00 to 15:00 hours and Levels 3 and 4 from 13:00 to 20:00 hours.

This has resulted in better customer relationships. Basic haircuts are given in the morning from 08:15 to 12:15 hours and the advanced techniques (perming, colouring, styling, etc.) now are performed in the afternoon, from 13:00 to 17:00 hours. Customer participation has been very good.

(b) The Barbering Program Advisory Committee held its second meeting on 1980 02 26. Practicums for this program were discussed and the Committee recommended that if they are to take place, it must be done with the approval and sanction of the Trade Advisory Committee. Mr. John Joli from the Ministry of Labour will be approached to put the matter before the next meeting of the Provincial Trade Advisory Committee.

2. FOOD TRADES

(i) BAKING - INDUSTRIAL AND OPTIONS

(a) The hours of sale in the Bake Shop were extended to 20:30

hours daily, Monday to Friday. This has resulted in an increase in sales from an average of \$400 per day to \$700 per day.

(b) The possibility of offering part-time training in the Baking Options program on Saturdays for six hours a day is being considered.

(11) COOK TRAINING

- (a) The six-level concept of training in the Cook Training program, which was introduced a year ago, has worked exceptionally well. The industry is very much in approval of the final level, the preparation of an a la carte menu, as it enhances the students' readiness for industry.
- (b) The Cook Training program has a substantial wait list and job opportunities are excellent at this time. At the meeting of the Program Advisory Committee on 1980 03 14, one of the concerns expressed by industry was where future chefs would come from. The Chefs' Association is very concerned about apprenticeship programs for the cooks. For the past 20 years the chefs of all major hotels and restaurants have come from Europe. This is no longer the case and unless a viable apprentice program is in existence, the hospitality industry will experience a severe shortage of qualified chefs.

kitchen, for example, menu costing, food control, scheduling, etc.

(iii) COOKING - CHINESE CUISINE

(a) In the last three classes of this program the majority of students were from Vietnam. The language of these refugees is Cantonese and they seem to have adapted very well to the Canadian way of life.

(iv) SHORT ORDER COOKING

- (a) The first Program Advisory Committee meeting was held on 1980 02 29. One of the main topics for consideration was that the name of the program be changed to "Cook Training - Basic" and that the program be lengthened from four to six months. The additional time would be spent on the preparation of fresh vegetables and making stocks, soups and sauces. This was suggested due to the trend by the public to no longer accept frozen vegetables or canned soups in restaurants.
- (b) A new breakfast service was started in the fall of 1979, between the hours of 07:45 and 09:15, for public, staff, faculty and students. The number of people using the service has been steadily increasing.

3. HAIRDRESSING

(a) Customer participation is excellent in the program, both

during day and extended day classes. A total of 26 apprenticeship classes, or an approximate total of 416 students, wrote the Provincial Exam for a Journeyman Hairdresser's License during 1979/1980.

- (b) Two new instructors were hired for the department, one of whom holds a current barber's license, as well as a hairdresser's license.
- (c) The Hairdressing Department is one of the first instructional departments to obtain a computer to give the students customer-information. When the computer "programming" is complete, it will supply the students or the instructors with information such as customer address, hair colour, formula for hair-colouring, date of last perm, etc. The computer is also capable of supplying certain student data to the instructor.
- (d) The hairdressing salon was renovated in the spring of 1979. Work stations which were 20 years old were replaced by 16 carrousels – a new concept in training – and provide a better atmosphere for students and customers.
- (e) The Program Advisory Committee has met once and plans to meet again in April, 1980.

- (a) This program is very successful and has a substantial student wait list.
- (b) The first meeting of the Program Advisory Committee was held on 1980 01 21. The Committee recommended that a 12-week advanced Esthetician program be conducted in July of 1980, followed by a 45-week part-time Esthetician program, beginning in September of 1980.

5. POWER SEWING PRODUCTION

- (a) The double class of Power Sewing Production resumed in September of 1979 after the four month period, from May to September, in which only one program is scheduled and one instructor is on holiday.
- (b) The Needle Trades industry is on the upward trend again in Vancouver. A new Program Advisory Committee is being formed and will meet by June of 1980.
- (c) Consideration is being given to combining English Language Training with the Power Sewing program to improve the students' understanding of program content.

6. HOSPITALITY INDUSTRY RESOURCE CENTRE

- (a) The Hospitality Industry Resource Centre established an audio-visual and learning resources library. A selection of 16 mm films and 35 mm slide-tape presentations on various subjects in the hospitality/tourism industry were acquired and are available for use by the colleges/institutes and by industry for training and upgrading of their students/employees. Also, various educational materials, statistical reports, surveys and press clippings relative to hospitality/tourism training have been acquired.
- (b) A "Directory of Courses Available in the Hospitality/ Tourism Industry in B.C." was compiled, containing a list of postsecondary and industry hospitality/tourism programs offered in B.C., arranged by skill area.
- (c) A project entitled "A Classification of Hospitality and Tourism Programs Offered in Post-Secondary Educational Institutions in B.C." was completed. Each provincial college and institution offering hospitality/tourism programs was visited in the summer of 1979 and an inventory compiled of current and planned future course offerings.
- (d) In the area of developing a standard core curriculum for hospitality/tourism training in B.C., the Resource Centre was

involved in two pilot programs for the industry - travel agents training and professional bartending.

7. SECURITY OFFICER

- (a) The Security Officer program was established in 1979 and the first course commenced on 1979 11 06. The program provides the level of basic skills and knowledge that newly recruited security personnel need for the performance of their jobs.
- (b) The program is taught on a part-time basis, from 09:00 to 12:00 hours, on Tuesdays, Wednesdays and Thursdays. These hours were chosen to accommodate the Security Officers in the program whose working hours are generally from 15:00 hours to 24:00 hours.
- (c) The Program Advisory Committee is very interested in seeing Security Officers in the Lower Mainland avail themselves of these courses.
- (d) Including a short first aid course in the curriculum is under consideration, as well as holding one day workshops or seminars through the Continuing Education Services Department.

8. SHOE REPAIR

(a) The Shoe Repair program is one in which no specific requirements are necessary for entry. It therefore provides a training

opportunity to students who may not be able to enter other programs. Certainly a very wide range of ages and educational backgrounds is encountered.

- (b) Customer participation in the program is good. The department usually reaches its weekly quota of 200 pairs of shoes that are brought in by the general public.
- (c) The instructor spent five days of Professional Development visiting the majority of shoe repair shops in the Lower Mainland. It is hoped that from these contacts it will be possible to form a Program Advisory Committee.

9. WAITER/WAITRESS

- (a) In conjunction with the Short Order Cooking program's expanded breakfast service, the Waiter/Waitress program has added to its curriculum a full breakfast serving module. Throughout the 12-week program, the students now are involved in the delivery of a full breakfast menu, a complete luncheon menu and a French service dinner menu.
- (b) The program recently has involved itself more directly with the industry through the development of a Program Advisory Committee. The first meeting was held on 1980 03 24 and the next is scheduled for 1980 05 13. Members of the Committee, who are

proving to be very active and interested in the program, include the owners and/or operators of the Cannery, 1066, William Tell and Kettle of Fish.

(c) Increased levels of direct promotion to over 400 Lower Mainland restaurants has helped increase the student intake into the program. Restaurant owners presently are being encouraged to forward job applicants who need training to V.C.C./V.V.I.

IV. TECHNICAL DIVISIO

1. AUTOMOTIVE

(a) Over the past year, both the Auto Body Repair program and the Auto Mechanic Repair program, which comprise this department, have been actively involved with adapting to the rapid technological changes taking place in the automotive field.

To meet these technological challenges, the Auto Body Repair program introduced automatic paint mixing machines, frame straightening machines for unitized body repair, dustless sanding equipment and other complementary equipment.

The Auto Mechanic Repair program developed "live", handson teaching aids involving dynometers coupled to operational engines, monitored by ocilloscope and other electronic diagnostic equipment, to simulate engine malfunctions. An infrared emission analyzer is expected to be added soon.

MacPherson Strut servicing equipment has been included in the program content to accommodate the immense expansion of the use of this type of suspension in modern automobiles. Wheel balancing equipment has been modernized and further improvements are expected in the near future.

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- (b) Substantial curriculum development was undertaken for both the Auto Body and Auto Mechanic Repair programs to enable written tests to be designed and marked by computer. Quizz-type and multiple choice-type questions were put directly into the computer for recall, random selection and marking. Tests of a more elaborate nature are in the process of being computerized.
- (c) Plans have been formulated that should see the Auto Body Repair program lengthened to include a large frame straightening component and an on-site practicum period. In addition, plans have been formulated to establish part-time instruction wherein the frame straightening component will be offered on an extended day basis.
- (d) The faculty of this department is enthusiastic in their endeavour to evolve a program content that is relevant to technological trends and that meets the needs of the students and the industry that will employ them.

2. BUILDING CONSTRUCTION

(a) The Building Construction program, located at 630 Raymur Street, continued to fulfil the training requirements for persons wishing to enter the construction field. Placement of graduates into employment and apprenticeship has been encouraging. Efforts to place upgrading inserts into vacancies in student enrolment continued. Significant cooperation with Workers' Compensation

Board and other rehabilitation agencies has resulted in retraining of many injured carpenters.

- (b) The spacious indoor facilities of this program are augmented by a large adjacent area outdoors to enable hands-on training in weather conditions found on a job-site. The projects that students build at this satellite campus are of a full-size nature involving complete homes from foundation to roof, full-size commercially-oriented concrete formwork projects and survey operations under field conditions.
- (c) A pilot project was undertaken and completed with the cooperation of Van Bourne Homes Limited wherein students spent two-and-one-half months on a job-site in Richmond building a 1,600 square foot, one-and-a-half storey home. The project was a success from the perspective of students, the instructors and the contractor, providing actual trade-oriented skills experience and deadlines.
- (d) A scholarship fund was established by Van Bourne Homes Limited for Building Construction students in which funds were equivalent to the labour savings involved.
- (e) Significant curriculum development work has been accomplished in preparing new teaching materials in the metric (S.I.) system. Problems still continue in this area as a result of reluctance of

manufacturers and suppliers to make a full commitment to the metric system.

3. DIESEL

- (a) The year 1979 brought the department closer to the goal of modernizing the wide variety of full sized diesels, power transmissions and related equipment upon which students gain hands-on experience. Some of the new equipment acquisitions were:
 - (i) direct-diesel engine driven Power Generators;
 - (ii) electrical generation power control cabinets capable of automatic/manual start-up and over-ride capabilities with parallel phasing;
 - (iii) governors for speed/cycle regulation;
 - (iv) electronic hydraulic system simulator for use in a lecture situation to expose students to troubleshooting techniques and system evaluation;
 - (v) expansion of power shift transmissions for trucks, buses and off-highway equipment.

(b) Development of instructional materials included the acquisition of additional audio-visual software, bringing to 50 the number of available topics on cassettes. These can be used by the instructor in a class teaching situation, or for individualized instruction. It has been a great success since the programs available are also used by industry.

- (c) Faculty in the department place a high priority on keeping pace with technological change in their field resulting in their attendance at courses and seminars on new developments.
- (d) Records indicate that 85 to 90% of graduates are working in jobs related to the diesel field. Graduates continue to be held in high esteem by many employers, several of whom are members of the Program Advisory Committee.
- (e) Considerable support has been received, through the Program Advisory Committee, from employers in encouraging the Ministry of Education to improve and expand training space for this program. Current developments indicate that this will now occur on the new site for the China Creek Campus.

4. MACHINIST

(a) During the past year, the conversion of the extended day upgrade program into a pre-employment program resulted in a significant improvement in utilization of training spaces. This provided for two pre-employment programs to be conducted between the hours of 08:00 and 22:00.

(b) In spite of the success of these two programs, industry

forecasts, requirements and wait lists obliged the College to seek further means of training machinists to the pre-employment level. As a result, it has been decided and approved through R.A.C. funding that in April of 1980 a third pre-employment program will be conducted during the hours of 22:00 and 04:30.

(c) Some relief for space constraints is expected as a result of renovations currently being planned to update the V.C.C./V.V.I. campus. Within the limits of the available space, the department has systematically replaced certain machinery items in concert with their Five Year Plan.

5. POWER ENGINEERING

- (a) Departmental members assisted the Ministry of Education and the Inter-Provincial Power Engineering Curriculum Committee to develop lectures and tests related to Power Engineering certification. Projects undertaken in 1979 included:
 - (i) preparation of Plant Administration lectures in 4th and3rd Class Power Engineering;
 - (ii) preparation of examination questions and answers for Inter-Provincial standardized examinations in 4th and 3rd Class
 Power Engineering;
 - (iii) preparation of Pre-tests for students entering Power Engineering programs.

- (b) Enrolment in Power Engineering Correspondence courses continued to increase in 1979 - from 29 in January to 256 by December. During the year 16 students completed their programs and received a College Certificate.
- (c) Twenty-six videotapes (each one hour in length) were
 added to the audio-visual library in subject areas such as
 electrical, instrumentation, chemical recovery and mill principles.
 Many audio-visual slide-tape presentations were also completed and
 work is continuing on others.
- (d) Renovations were completed to instrumentation facilities to obtain a more efficient laboratory. Pneumatic instrumentation of the B & W boiler in the steam laboratory was completed and made operational. A new electrical fireye system was also installed and made operational. A separating and throttling calorimeter was purchased and will be installed.

6. PRINTING PRODUCTION

(a) This program provides five distinct components of the graphic arts industry: management, composition, lithographic preparation, press operation and bindery operation. Therefore graduates are provided with a sufficiently wide training base to enable them to select an area of specialization that best suits them.

- (b) The influence of electronic control in the areas of computerized estimating, photo composition and lithographic operations continues to grow rapidly.
- (c) Some relief of space constraints appears likely in the next year or two following the realization of the expansion and renovation of the campus.
- (d) Evaluation of the program structure is currently under study and it is expected that more levels will be introduced in the near future.
- (e) Programs currently offered to apprentices through Continuing Education Services are being reviewed in keeping with the College's decision to bring such programs directly under the authority of the parent department. It is expected that comprehensive part-time training courses will be offered on extended day in 1981.

7. WELDING

(a) The Welding department still operates 24 hours a day. On any one day there are over 70 students attending either the 10 month Welding program or the Welding Upgrade program. Last year, 196 students completed the Welding Upgrade program which includes such tasks as: evaluation tests, upgrading, updating and code biennial testing.

- (b) Material storage areas, general shop floor space, facilities and instructional equipment are being utilized to their limit. These conditions are expected to be relieved with the implementation of the plans to renovate and expand facilities.
- (c) A number of major and minor improvements were made to the physical plant and facilities, including:
 - (i) improved lighting;
 - (ii) larger capacity acetylene manifold system;
 - (iii) repainting of all pieces of instructional equipment in the shop;
 - (iv) installation of a dust particulate collection system to provide a cleaner environment.
- (d) The department fabricated new and safer manual and automatic flame cutting tables. These tables also made more effective use of the floor space and as a result both the manual and automatic flame cutting delivery capabilities were increased by 50 and 65 percent respectively. This improvement resulted in more actual welding training time for the students.
- (e) The department acquired both a Plasma Arc Cutting and Plasma needle-arc welding process. With these two processes, non-ferrous materials can be cut, such as: stainless steel, aluminum, copper