



#### CASE STUDY 4

*A core product of the Employability Skills Forum, National Business and Education Centre*

**Program**  
*Partnership*

**Date Established**  
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**Name of Program**  
*Dofasco Inc.'s  
Apprenticeship  
Technician Program*

**Skills Developed**

- *Academic*
- *Personal  
Management*
- *Teamwork*

Developing employees' employability skills

# DOFASCO INC.'S APPRENTICESHIP TECHNICIAN PROGRAM

## *Maintaining the New Machines*

BY MICHAEL R. BLOOM, PENNY BRADY & KURTIS KITAGAWA

*August 1998*

Dofasco is meeting the challenges of the new economy by enhancing employees' generic employability skills and by building technical training programs on the foundation of strong generic skills.

#### **Overview**

Dofasco established the Apprenticeship Technician Program to help employees learn the skills they need to maintain ever more technically sophisticated equipment. Given the pace of technological change, training support for employees is an ongoing concern with Dofasco. Dofasco's human resources philosophy is to help employees acquire the skills they need to succeed and, by helping employees to do their jobs well, to help Dofasco achieve performance targets. Dofasco regards employee training as a mutually beneficial exercise in which employee empowerment goes hand-in-hand with enhanced Dofasco productivity.

In setting up this program, Dofasco acknowledged the importance of (1) upgrading employees' technical skills to ensure Dofasco's continued success in a highly competitive global economy and (2) investing in the employability skills of employees, who must constantly adapt in a rapidly changing workplace. Employees with strong generic skills find it easier to

work with new technologies and are better equipped to accept new responsibilities within Dofasco.

In the early 1990s, facing mounting global competition, Dofasco identified its core products and services. By the mid-1990s, pushed by the reality of an aging workforce, customer needs, growth and technological change, Dofasco needed to build the skills of maintenance technicians.

In building the skills of maintenance technicians, Dofasco's Training Department faced new challenges, including the need to decrease its training costs while increasing the impact of its training programs at a time when the company was restructuring and reducing its workforce from 12,000 to 7,000 employees.

To meet these challenges, Dofasco supported two key employee skill building programs: (1) the Apprenticeship Technician Program and (2) the Trade Assist Program (see Case Study 5).

#### **Objectives**

The Apprenticeship Technician Program aims to:

- help Dofasco employees improve their generic employability skills,
- help trade employees improve their maintenance skills to keep pace with technological innovations,
- help employees acquire the skills that help Dofasco remain competitive, and

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- ensure that the workforce has the skills required for the 21st century.

**Groups Served**

- All electrical and mechanical trade employees.

**Activities**

Dofasco, through its Apprenticeship Technician Program, has modified its traditional trade apprenticeship programs to ensure that employees become skilled in the increasingly essential technical trades and acquire the generic employability skills employees need to adapt to rapid workplace change.

In the early stages of launching its Apprenticeship Technician Program in the fall of 1991, Dofasco set up small focus groups drawn from more than 70 trades, supervisors, educators and suppliers to identify and catalogue the skills that future generations of tradespeople will require.

Once these groups had identified the necessary skills, Dofasco, Mohawk College of Applied Arts and Technology and the Ontario Training and Adjustment Board (now the Ministry of Education and Training) created the Apprenticeship Technician Program. The Program blends a traditional four-year workplace apprenticeship program (which produced journeypersons or tradespeople) with a two-year college technician certificate program to produce a new four-year apprentice technician program. The program produces technicians, who have engineering related skills and occupy an intermediate position between maintenance employees and technologists.

Over four years, employees:

- attend college for four four-month semesters,
- undertake four six- to nine-month work terms at Dofasco to develop their generic and technical skills, and
- attend three 8- to 10-week trade school sessions.

Prospective apprentice-technicians must have at least a Grade 12 education, a basic aptitude for mathematics and mechanics, good reading comprehension and knowledge of spatial relations.

In addition, prospective apprentice-technicians, must also be successful at a personal interview.

**Resources Required**

*Dofasco's Contribution*

- \$4,000 per student over four years for tuition fees.
- Half the cost of students' textbooks.
- \$80,000 over four years for salaries paid to employees while they are attending college.
- Tool kit—\$1,200.

*Commitment from Ontario Ministry of Education and Training*

- Program co-ordinator from the Ontario Ministry of Education and Training, who works in conjunction with Dofasco's Human Resource Development Department.
- \$1,200 over four years.

*Commitment from Students*

- Personal time for study.
- Half the cost of textbooks.

**Achievements/Outcomes**

- Dofasco employees have achieved high averages at Mohawk College in the Apprenticeship Technician Program—75 per cent of them have made the Dean's honour list.
- Participants were encouraged and supported by maintenance supervisors when they returned to full-time work.
- Apprentice-technicians have become a much sought after commodity within Dofasco, turning their advanced skills to good use on the job, and solving problems quickly and efficiently without having to call in comparatively expensive engineering support. Equipment reliability technology in an increasingly technically sophisticated workplace requires new skill sets, including a knowledge of fluid mechanics, friction, wear, heat transfer, vibration analysis and statistics.

### The Employability Skills Forum Mission

We are committed to improving the productivity and quality of life for individuals, organizations and society by enhancing the employability skills of the current and future workforce of Canada.

This study was made possible through funding by members of the Employability Skills Forum.

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### Benefits

By combining workplace apprenticeship and technician certificate programs into one program, Dofasco has been able to produce highly skilled apprentice-technicians in the same amount of time it used to take to train a tradesperson. The program has simultaneously increased the earning potential of Dofasco employees and the productivity of the company.

### Innovation

Dofasco's innovativeness lies in its streamlining of technical training by successfully combining two college courses into one. As a result, Dofasco has been able to help employees become more highly skilled more quickly than ever before to meet its new performance targets. In particular, the Apprenticeship Technician Program has:

- minimized duplication of in-school training between apprenticeship and college,
- accelerated learning, using Dofasco as a kind of "learning laboratory,"
- related in-school assignments to real workplace situations rather than to case studies (for other examples of how employability skills development programs enhance the relevance of education, see case studies 2–3 and 6–20),
- made electives available that develop interpersonal and business skills, and
- eliminated less focused electives.

### Keys to Success

- Be clear about the business's needs and prepare a proper business case for senior management.
- Establish a strong communications network between the program coordinator, management and the workforce.

- Ensure a strong corporate commitment to workforce and community.
- Address resistance of long-serving employees to accepting the new technicians by applying change-management principles to obtain commitment and support.
- Involve shop floor personnel, including supervisors, in identifying and cataloguing the skills that tradespeople require. This is in addition to their participation in other decision-making processes (plant assignments, specific job training, evaluations).
- Create partnerships with local community colleges to deliver training.
- Produce accurate projections of the company's need for regular apprentices, technicians, technologists and engineers to maximize the benefit of having various skill levels in the workplace.
- Ensure a natural flow of talent by providing effective incentives and having appropriate jobs and avenues for advancement ready for people who develop their technical and generic skills.
- Co-ordinate workplace training of apprentice-technicians to ensure that their workplace training becomes progressively more advanced as they move through the various stages of their apprenticeship.

### Greatest Challenge

Management should be sensitive to how newly trained apprentice-technicians will be perceived by their fellow employees. Management should also be aware of the challenges employees face in receiving classroom instruction when they have been out of school for a long time and supportive of employees as they build their generic and technical skills.

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**NBEC Publications Relating to Employability Skills Development and Assessment**

*Employability Skills Profile*

*Science Literacy for the World of Work*

*Best Practices in Assessing and Developing  
Employability Skills—20 Case Studies (Sept. 98)*

*The Economic Benefits of Improving Literacy in  
the Workplace, 206-97 Report.*

*Enhancing Employability Skills: Innovative  
Partnerships, Projects and Programs, 118-94 Report.*

*Linking Teachers, Science, Technology and Research:  
Business and Education Collaborations That Work,  
144-95 Report.*

*1998 100-Best Partnerships IdeaBook*

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