



Case Study **March 2005**

Building Essential Skills in the Workplace Empowering Employee— Learners with Essential Skills at Durabelt Inc.

OVERVIEW

Located in Montague, Prince Edward Island, Durabelt Inc. is a small business that employs 5 to 35 people, depending on the season (July to October are the busy months). The company markets its products—belted chain conveyor belting and associated components for harvesting root vegetable crops (for example, potatoes, carrots, beets, turnips, onions, garlic) and soft fruits (such as strawberries and field tomatoes)—through dealerships in Canada and the United States. Durabelt's belted chain products sieve out unwanted dirt and vines while conveying the cash crop to the truck.

Every belted chain is a customized product. In terms of generic essential skills, manufacturing belted chains involves a combination of literacy, numeracy and problem-solving skills. Employees need to be able to read,

The Education and Learning case studies examine outstanding education and lifelong learning programs and initiatives. This case study addresses best practices in developing essential skills in the workplace.

Name of Program
Project Duraschool

Date Established
1997

Skills Developed

Reading text
Document use
Numeracy
Oral communication
Thinking skills
Problem solving

Contact

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understand and fill work orders. They also need to divide, punch and split cloth-reinforced rubber belts and calculate the number and sequence of straight rods to crank rods for a given belt, knowing the overall length of the belt and the spacing required between the rods. As well, employees must calibrate cutting, bending and punching machines used to make rivets and rods from stock steel wire and hinges from sheet metal, also kept in stock. And they need to measure and mix chemicals in the right proportions to get the job done with a minimum of waste. In addition, maintaining efficiency sometimes requires employees to manufacture replacement parts for their own equipment. Being able to make repairs in-house with Durabelt-produced replacement parts avoids costly delays, increases profit margins and makes the company more self-sufficient.

Thus, it is clear that to be effective in their jobs, Durabelt employees need to be adept not only at using their technical job-specific skills, but also in managing their time, sequencing operations, working in and supporting teams, working safely and dealing with external customers who purchase belted chains and bring in old chains for repair. For the company to succeed in a highly competitive manufacturing environment, Durabelt employees must continually hone and deploy all of their skills, both generic and job-specific. They must do this in order to drive productivity, reduce waste and re-work and deliver a consistently high-quality product on budget and on time.

BACKGROUND

Durabelt has long understood that to operate an economically successful business—and provide a rewarding and fulfilling work environment for its employees—it must hire and promote individuals on the basis of their skills, abilities, attitudes and characteristics. The company's policy has been to administer a job-related aptitude test to help determine the suitability of a candidate for a specific job, or for job changes or promotions. Hand in hand with assessment is investment in the training and development of employees. Durabelt believes that employees who want to continue their education while still working at their full-time jobs are demonstrating their commitment to improving themselves and their position within the company. Durabelt encourages and rewards these individuals and invites employees to tell

their managers about training programs that they believe will enhance their skills or those of their co-workers. The company also offers to reimburse employees for tuition costs incurred in job-related training.

Against this backdrop—recognition of the importance of employee skills and of the need to invest in employee education—it was not surprising when, in 1997, the manager of Durabelt at the time, Douglas Sutherland, pushed for workplace education when skill deficiencies on the shop floor started to affect productivity. For example, several employees were experiencing trouble reading and understanding work orders, doing the required calculations and solving day-to-day production problems. Sutherland's observation that his employees faced literacy, numeracy and problem-solving challenges was confirmed when he administered a standardized test and discussed the results one-on-one with employees. Sutherland knew that enhancing employees' literacy and numeracy skills would be a win-win situation—for employees and their families, on the one hand, and the company on the other. It would better equip employees to work through problems encountered in the workplace, which in turn would enhance their self-confidence. Employees would be able to take pride in their work as students and as employees, and this would be reflected in improved quality of life at home and in the products they made at work.

It was with a firm desire to close a skills gap among his employees that Durabelt's manager approached Workplace Education-PEI for assistance. Workplace Education-PEI promotes and co-ordinates skills development programs in workplaces throughout Prince Edward Island. It receives funding from the National Literacy Secretariat, Human Resources and Skills Development Canada, the Atlantic Canada Opportunities Agency and the Government of Prince Edward Island.

OBJECTIVES

Durabelt began its workplace education program "Project Duraschool" with several objectives in mind:

- to help employees with literacy, numeracy and problem-solving challenges that translate into problems with reading and understanding work orders, doing required calculations and solving day-to-day production problems;

- to raise employees' self-confidence by giving them tools to work through problems encountered in the workplace;
- to encourage employees to take pride in their work as students and as employees, which will result in improved quality of life at home and in their work; and
- generally, to close a skills gap among employees.

TARGET GROUPS

Duraschool is open to all employees of Durabelt Inc. who are interested in upgrading their essential skills, and especially for those who wish to develop their math and communications skills.

Through Duraschool, the company promotes a culture of learning beyond its own workforce and into the small rural community in which it operates. To that end, secondary target groups for essential skills training include interested family members and friends of employees.

ACTIVITIES

THE PROCESS

Step 1

Workplace Education–PEI responded with an employee-centred process suited to the needs of adult learners. Most crucially, it is designed to build maximum employee/employer ownership and buy-in right from the start. Ruth Rogerson, a field officer with Workplace Education–PEI, made a presentation to all interested employees and managers about the services of her organization.

Step 2

The second step was to put together a workplace project team composed of a representative from management, an employee from each department and learners. The different players on the project team brought their various perspectives to the table and shared information to begin the process of planning and implementing a workplace education program for Durabelt's employees.

Step 3

The first task of the project team was to schedule interviews for the organizational needs assessment to be conducted by the field officer from Workplace Education–PEI. The needs assessment interviews focused on the challenges associated with, for example:

- downsizing;
- changing methods of production or service delivery;
- introducing quality improvement plans;
- unacceptable accident rates;
- changing legislation, which requires increased certification for workers; and
- training that has not produced the desired results.

When Rogerson analyzed the data, she was more able to determine the essential skills needed by Durabelt employees, the company's current workplace training practices and policies and, on a basic level, the learning needs of employees. The field officer's findings showed a wide variation in employees' literacy levels and underlined some of the problems employees had in following work orders. The project team then interviewed and hired instructors for Duraschool, a workplace-based school that would focus on enhancing employees' skills in the areas of math and communications for manufacturing.

At this school, interested employees attended classes for two three-hour evenings a week for 16 weeks to update and improve their math, reading and writing skills. Classes were held in the lunchroom and in an office at Durabelt. Having instruction on-site proved advantageous in that it offered an easy and non-threatening learning environment. Participants could be quiet about the fact that they were going "back to school" in the evening if they wished, and interested family members and friends were also invited to attend. Participation was voluntary.

Moreover, having instruction on-site ensured that employees could get support in solving problems directly related to their jobs. The shop floor could be used for teaching and learning. Employees could practise their communication skills by writing operating instructions for different pieces of equipment used in their jobs that would then be followed by co-workers.

Step 4

In the next phase of the process, the workplace instructors took the lead. They toured Durabelt, collecting written materials used in the workplace, including the employee handbook, work orders, safety sheets, pay stubs and company brochures. Instructors also held informal individual interviews with employees to determine a starting point for instruction. They then worked with individual employees interested in upgrading their skills and adapted written workplace materials for the Durabelt curriculum. Finally, the instructors developed customized learning plans for each employee and divided learners into two groups, according to similarities in their learning needs.

Step 5

Specific learning activities at Duraschool included:

- having trainers develop word lists of varying degrees of difficulty so learners could become fluent in technical terminology;
- having employees write out operating instructions for machines to develop their writing skills and their ability to communicate with each other while learning how to operate equipment safely and efficiently;
- having employees locate Durabelt's customers on maps, using a list of companies from accounts payable/receivable—this activity helped teach geography and map-reading skills while acquainting employees with Durabelt's customers;
- having employees calculate percentages to help them make their own conversions when mixing chemicals to make urethane—previously, employees relied on examples listed on the mixing chart, which did not cover all the possibilities and led to inappropriate pours and wasted product; and
- having employees use ratio and proportion to calculate the number of crank rods to straight rods used in a belt.

Step 6

Participating employees were honoured at a dinner celebration and were presented with certificates and monogrammed T-shirts.

RESOURCES

The company provided space on-site for Duraschool instructional activities, offering the lunchroom and offices as classrooms and even the shop floor for problem-solving exercises related to the participants' job tasks.

The employees used workplace documents, including the employee handbook, work orders, safety sheets, pay stubs and company brochures as instructional materials. Durabelt also provided in-kind services such as time off to attend classes and administrative services. Workplace Education—PEI provided the needs assessment and the services of the field officer as well as the instructor.

INNOVATIONS

- Instructors made a short video highlighting ongoing programs to use as a marketing tool.
- Training instructors became familiar with trade-related skills to help employees hone these skills as well as build their study and test-taking skills. This was new to them as trades training is not the mandate of workplace education, at least not in Prince Edward Island. It helped them understand the tasks demanded of the employees in their jobs.
- Creating and maintaining buy-in for the learning program from funders, management, supervisors, and employees was achieved through positive attitudes toward learning. When all levels of the organization are committed to developing a culture of learning in the workplace, challenges are overcome and successes are celebrated as a team.

CHALLENGES

FOR GOVERNMENT FUNDERS

- operating workplace education within the mandate of a provincial department of education
- focusing not on who is responsible for doing x, y or z but on who has the ability to make things happen
- “getting a seat at the table” so they can see that their interests are represented—avoiding a “you write the cheque, and we spend it” situation
- understanding that people have to develop more skills if they are going to be employed in different jobs during the off-season or later in their careers
- encouraging business to buy into workplace education
- helping business to subtly develop a learning culture among managers and people on the shop floor
- helping employers understand that having a Grade 12 cut-off for hiring does not mean that they do not have an education problem in the workplace
- getting employers to pay more attention to learning program candidates who are capable of learning, are motivated and flexible and have a good attitude

FOR TRAINING CO-ORDINATORS

- marketing workplace education to business—if management does not buy in, the information does not get to employees
- selling a needs assessment as opposed to a fixed product—business wants to know precisely what program would be delivered, and getting the emphasis right depends on understanding their needs
- retaining workplace educators on a part-time basis—educators tend to get full-time jobs
- providing adequate in-service training and time for instructors to network and share ideas

FOR INSTRUCTORS

- assessing the needs of each individual learner—what they need and want to learn and how they learn best—and designing curricula to suit learners' different learning styles
- teaching a class where learners are at different skill levels and have different learning needs (similar to teaching in a one-room schoolhouse)
- having the creativity to turn written workplace materials into curriculum and learning activities that are engaging, relevant and fun for employees
- gaining the confidence of employees—adult learners “vote with their feet,” so if their needs are not met, they will not come back
- feeling isolated—not having a forum in which to share knowledge about what works and what does not with other trainers
- helping learners form their personal career objectives and set their own learning goals
- raising the literacy issue with employees without giving offence—showing them they need literacy at various levels, for example, to read and apply information contained in maintenance and safety manuals, or to skim information required for immediate action, or to learn new terminology or technical vocabulary
- motivating people who do not need high literacy levels for their jobs to stick with literacy training—for example, including workplace materials in preparatory work for writing the Grade 12 equivalency exam (General Educational Development or GED) so learners can learn skills without using a GED book
- knowing where to get help for people who have learning difficulties

FOR LEARNERS

- being afraid to try new things
- becoming learners again, which can seem like “going back to school” and is hard for those who left school early
- recognizing that they need to learn and seeing how they are going to use what they learn
- understanding that it is not the employer's responsibility to keep them employed—employees need to decide the things they want to do and the things they need to know to get them where they want to go
- seeing that they have nothing to lose—the training is free and the results are confidential
- learning how to learn and preparing to write certification exams at the end of workplace training
- becoming familiar with technology not normally used in day-to-day work, for example, fax machines and photocopiers

FOR BUSINESS

- keeping workplace education programs running after government funding has been withdrawn
- believing in learning throughout the organization, from the receptionist to the managers
- maintaining investment in employee education even if the benefits cannot be quantified using a traditional return-on-investment model
- appreciating the importance of not using tests that assess employee learning in terms of grade levels—such testing does not make sense for adults and can reduce self-confidence
- allowing workers to use the workplace as a learning environment so they feel comfortable learning—no one else will know that they are “going to school”
- showing a genuinely humanitarian purpose in encouraging learning—taking an interest in the well-being of learners helps improve their morale
- making sure employees understand why it is important to obey safety regulations—they need to realize that these are not arbitrary rules and cannot be ignored
- considering ways to reward employees for learning—perhaps through time off or extra pay for part of the training time
- assessing learning styles and tailoring teaching approaches accordingly (for example, by including hands-on activities)

- focusing on how to get the most out of their people instead of on manipulating numbers—increasing the duration of a shift by 25 per cent will not necessarily lead to a 25 per cent rise in productivity

SOLUTIONS/KEYS TO SUCCESS

FOR TRAINING CO-ORDINATORS

- spending time upfront showing a company what is entailed in setting up and running a successful workplace education program
- helping the project team make good hiring decisions, whether hiring a tradesperson with teaching skills or opting for an adult educator who has the people skills for a given workplace education project
- ensuring the confidentiality of information generated through an organizational needs assessment—this is important because it enables employees to be frank about issues
- taking education to the people instead of expecting them to seek it out
- keeping trainers current by sharing success stories about what other companies are doing in teaching and evaluation
- monitoring and evaluating each program to solve problems as they arise

FOR TRAINERS

- avoiding the deficit model approach (“this is where you are, and this is where you should be, so here is how much you have to catch up”)
- taking a developmental approach to learners that assesses where they are, looks at where they want to be and makes a plan to get there that builds on individual learners’ strengths
- showing learners that they are not deficient—rather, the world of work is constantly changing and they need to learn how to keep up for their own good and for the good of those who depend on them
- knowing how to build a learning team
- being able to recognize when someone has a learning disability and knowing where to get help
- creating a safe and comfortable environment for learning
- validating the knowledge and experience that learners already have and demonstrating that the trainer is a facilitator, not an instructor—the trainer does not have to be the expert, and the learners can help and learn from each other

- being known by the company and its employees and being willing to learn the culture and needs of each work site
- being able to relate to employees and ensuring they can relate to trainers—not being judgmental
- having expectations of employees—letting learners know that improving their skills is a reality they need to come to terms with
- knowing the trainer’s boundaries—the trainer is not a counsellor and has to know when to refer people to one
- being able to relate the essential skills that are being developed to workplace or domestic tasks—starting with what learners feel they need to know for their jobs or with real challenges they are facing in their lives (such as understanding the concepts of principal and interest when taking out a car loan)
- being able to draw on learners’ experiences and integrate new information with what learners already know
- being able to point out opportunities for learners to apply their knowledge in work, home and community settings
- being able to facilitate classes in makeshift learning environments
- treating participants’ academic information as confidential
- being able to deal with people at all levels within the workplace
- being able to create unique facilitation approaches geared to the needs of individual learners
- being able to help individual learners set learning goals and adapt workplace materials to meet their specific learning objectives
- being open to any learning approach and involving learners in diagnosing their own learning needs, setting their own learning goals, developing their own learning plans and monitoring their own learning progress
- showing learners that their opinions count by taking action on their suggestions and encouraging them to speak up
- giving adults confidence in what they are trying to learn
- making themselves available according to the workplace schedule—employees cannot afford to take time off work, and companies cannot afford leaves of absence for training
- attending training sessions with other trainers to share effective practices

- challenging learners on the basis of their successes—when somebody gets an answer right, he/she can be given more difficult tasks or asked to help other people
- recognizing and praising every step learners take
- making sure people who say they want to learn really do want to learn—have they asked for a raise and are they willing to “pay” for it by learning?
- listening to learners—they have the right to veto something you think will work if they do not like it
- work independently—they do not need to be supervised when doing a worksheet or work order; they do things that need to be done without being told
- ask questions when they do not know something
- become more innovative—they contribute more, and think of and develop new possibilities
- arrange tasks and materials and work in an orderly way
- learn how to work better in a team and build friendships with co-workers

FOR BUSINESS

- partnering with other groups to make workplace education happen
- fostering a learning culture at the company
- valuing employees and showing a commitment to them
- become better at recognizing and solving problems and make better decisions at home and in the workplace
- become more adaptable and able to accept new challenges

OUTCOMES

- Duraschool students developed a dictionary of terms to help acquaint new workers at Durabelt with the terminology used in the workplace.
- Several Duraschool participants got their GED; another, whose first language is not English, plans to take his Grade 12 equivalency exam again.
- One learner is attending the local community college for trades training.
- Employees are rewriting the employee handbook to make it easier for them to follow and use.
- Employees put the annual performance appraisal forms into plain language.
- read, understand and follow work orders and directions quickly and accurately—without having to be shown what to do
- learn about the business while enhancing their essential skills
- know the products they are making and what they are used for
- see the value of education and take responsibility for their own learning
- develop the foundation for further education and training—take advantage of other learning opportunities, including pursuing Grade 12 equivalency and further education
- become better able to help their children with their homework and have higher academic expectations for them
- see that they have better chances for promotion

BENEFITS

FOR EMPLOYEES

- gain self-confidence and believe they are more capable—one employee bought a house; another wrote an essay to win a computer
- feel good about doing something for themselves
- feel more important and have more options in the world of work
- accept suggestions for personal improvement more readily
- explain themselves better and speak up about things that matter to them in the workplace and in their community
- show more initiative and take more pride in their work

FOR EMPLOYERS

- achieve increased plant efficiency and productivity—employees do not waste time “running around” looking for a supervisor to help them read or calculate something to enable them to get on with routine work
- have better workplace safety—workers learn about the safe operation of all equipment, not just the machines they use
- deploy workers from one work station to another, which enables cross-training
- develop stronger rapport with employees
- reduce waste
- achieve better quality and customer service
- introduce and use new technology successfully

- experience reduced re-work and warranty costs—a single belted chain can cost \$10,000, and repair work is expensive and time-consuming

USE AS A MODEL

The Duraschool model of employee learning used at Durabelt Inc. is well suited for organizations that rely on project teams. The long-term benefits of workforce flexibility and a culture of collaboration justify the investments in essential skills training.

The Duraschool is not operating at present, which is an indication of its success, not of its failure. The company's core workforce has raised its essential skills to the point where the program is no longer necessary. The company has gone on to focus on advanced skills development training programs for its employees. However, should there be a demand for essential skills training, the Duraschool will be reinstated as a proven model of success.

About the Education and Learning Case Studies

The Education and Learning case studies examine outstanding education and learning programs and initiatives. The case studies provide in-depth analysis of the methods used to develop, assess, implement and deliver education and lifelong learning in schools, colleges, universities, workplaces and communities. They focus on goals, activities, resource requirements, achievements and outcomes, benefits, innovations, and keys to success and challenges.

This case study addresses the theme of building essential skills in the workplace and is funded by Human Resources and Skills Development Canada.

Acknowledgements

Our thanks to Durabelt Inc., the people we interviewed, and others who provided comment, including: Scott Laney, participant in Duraschool and employee; Barbara MacNutt, Manager, Literacy Initiatives Secretariat, Department of Education, Prince Edward Island; Juanita Moore, participant and employee; Lorne Noble, employee and instructor; Mary Ann Stewart, instructor; Ruth Rogerson, Field Officer, Workplace Education-PEI; and Bernadette Walker, Manager.

Building Essential Skills in the Workplace Case Study Series: Empowering Employee-Learners with Essential Skills at Durabelt Inc.

by *Kurtis Kitagawa*

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