



**Canadian
Manufacturers &
Exporters**

British Columbia Division



Phase 2 Report

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Phase Two sample materials

Team Time is a project of Teleflex Canada and Canadian Manufacturers & Exporters, BC Division.

Members of the Team Time Steering Committee were Werner Knittel, CME BC Division; Paul Hansen, Mark Soares, and Jay Warren of Teleflex Canada; and Tracy A. Defoe and Ruth Farrell, Workplace Education Consultants. The Steering Committee thanks everyone who supported and participated in the development of the model, the materials and the pilot training sessions.



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Training in CI (Continuous Improvement) Manufacturing

A project of Canadian Manufacturers & Exporters BC Division and Teleflex Canada
Report by Workplace Education Consultants Tracy Defoe and Ruth Farrell

Team Time Phase 2 Report

1.0 Project summary

This project carries forward the development of the Team Time model of training for participation in Lean or Continuous Improvement (CI) Manufacturing. Team Time is being developed and delivered by people at Canadian Manufacturers & Exporters (CME) BC Division member Teleflex Canada as a joint project of the two organizations. Through Phase One of Team Time, we gained a model and sample materials. Phase 2 aimed to take Team Time “From Model to Momentum” by developing necessary supporting elements to make our integrated approach to workplace learning sustainable in the pilot company and readily understandable to manufacturers via the CME. Results and products of the project include new and revised materials integrating lean/CI content and workforce literacies for transplanting Team Time; a greater understanding of group learning and the approaches most effective for production workers and others; and the beginning elements for a business return on investment analysis of training; conference presentations and communication pieces; and a report on the project.

In terms of dissemination September 2002 to March 2003, Team Time information has been distributed at three CME manufacturing sector conferences. Detailed information is being made available to member companies of Canadian Manufacturers & Exporters High Performance Consortia, first in British Columbia and then across Canada. Also during the time period of Phase 2, we had a short “beta testing” pilot at two CME BC Division member companies with grant monies from BC’s Industry Training and Apprenticeship Commission (ITAC). This opportunity put Team Time in front of the CME BC Division Board of Directors and resulted in people from two more companies talking enthusiastically to their peers about Team Time. We have also stayed in touch with the companies that toured Teleflex Canada in October 2002 and some who heard about us through conference presentations. This is the kind of momentum we were aiming for, informed interest in the manufacturing community that will create a demand for Team Time so that learning Lean / CI manufacturing can include everyone in the workforce.



Team Time materials in development

2.0 Project Objectives

The development of Team Time has always included sample materials, facilitation and team learning support and an inclusive approach to learning Lean Manufacturing. Phase Two aimed to grow Team Time from a model to a movement with momentum in Canadian manufacturing. There were two main areas of activity to support this objective, each with its own goals.

1. Extending and Sharing

We had multiple goals to extend, go deeper and to share what we are learning about Team Time. These included

- ✓ to extend our work within the pilot company
- ✓ to try again to support the development of leader-trainers which we did not fully accomplish in Phase One
- ✓ to refine the training materials, and make the underlying learning theories and views of literacy more accessible
- ✓ to find a way to continuously improve the materials and the model through use and on-going evaluation.

We made progress on all of these goals during the project, despite on-going reorganization and many changes in job roles at the pilot company. We were very glad to have redesigned the material around questions rather than content areas during Phase One

or the whole project would have been much less flexible during Phase Two. Some of our activities in extending also directly relate to our sustainability goals and are reported in that section below. We report on Sharing under the heading of Dissemination Highlights.

In terms of extending the approach, going deeper into some of the Team Time modules and building complementary leader versions of the modules with the learning theories more visible, highlights include the following.

- To accelerate exposure to Team Time through the company, we organized and delivered a successful Training Day November 29, 2002 as an alternative to the traditional company-wide Inventory Day. More than 175 production workers had all-day Team Time training in 8 groups of between 20 to 25 people from all three shifts at the company. This was an enormous challenge with much of the training taking place in spaces on the idle production floor; there are not nearly enough meeting rooms for this many groups and only two rooms could hold a group of 25.

The Training Day aimed to bring everyone up to a minimal level of Team Time training and included

- T-02 and T-03 combined “Who are your customers, what do they want and how do we measure it?”
 - T-05 “How do we learn in groups?”
 - T-08 “What is Continuous Improvement all about” combined with T-08.5 “What is pull?” in a new version
 - Mini versions of four modules on understanding quality that were originally developed for production leaders to help them teach workers
 - “What is Statistical Process Control (SPC)?”
 - “What is Geometric Dimensioning and Tolerancing (GD&T)?”
 - “How do we keep procedures clear through Standard Operating Procedures (SOP)?”
 - “What are the significant features on engineering drawings marked and what do the symbols mean?”
 - New material on understanding, accessing and using the quality system including using a computer and the company intranet.
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- We recruited and quickly trained 30 people to be the trainers for these modules through the day. Production leaders were needed to supervise the inventory count, so we called for volunteer trainers and people responded from Customer Service, Employee Services, Engineering, Quality Assurance, Purchasing, and Production to step into trainer roles. This brought many people into experiencing Team Time as trainers at the same time as spreading the introductory training through the company.

The Training Day alone would have accomplished our goal to extend Team Time at Teleflex Canada.

- The role of production leaders and that of production managers has evolved at the pilot company and in the later part of Phase Two we started a Team Time training group for leaders and managers. Both of these groups need to communicate the company metrics and understand and teach lean ideas to workers. Working with this group has helped us improve both the way we express the learning ideas behind Team Time and the way the materials evolve to be relevant to changing situations.
- We developed new material to learn to host a tour. This is included in sample material appended to this report.
- Some modules went through considerable additional development including T-06 “How does information flow?” One of the groups doing Team Time during this project has been the Purchasing Group. They spent many sessions in T-06 working through the detailed local meanings of the many software qualifiers for the reports they produce. Working with this group also focussed on the aspect of Team Time related to intra-group communication as they worked through their current state (T-07) and decided to try formal and informal cross-department visits and meetings to understand their current state with people from Receiving, Incoming Inspection, Accounting and Materials Handling groups.
- We have tried to make Team Time leaner and have developed some procedures for keeping the materials files, storing digital photos and error-proofing our work through using different fonts to mark drafts and incomplete sections. We hope that this will minimize ‘double-handling.’ Redrafting and customizing the materials is on-going and makes more sense to us than setting any module as finished at this time, though many modules are quite stable and are proving to be relatively easy to learn to run with different groups.

1.1 Dissemination highlights during Phase 2

We also aimed to arrive at ways of explaining and experiencing the model that are clear and easy to share. We have found that most of the time manufacturers expect to talk about Lean Manufacturing and have workers understand and embrace the mind-set embodied in this approach. Adult learning theories, and our experience, tells us that people are unlikely to understand and adopt a new way of thinking based upon listening or watching a presentation. Also, we have found that workers do not obviously equate changes in their work environment such as new cell set-ups, with a move to Lean Manufacturing unless this is explained and experienced with an opportunity to meaningfully interact with the ideas underlying the changes. This is why participating in

Lean Manufacturing, working in teams and learning these ideas is a kind of workplace literacy.

In disseminating information about Team Time we have tried to give people a taste of what it involves, to show through photos what people do in work and in training, to place in their hands our Meetings infolip from Phase One, and we hosted a major tour as part of the CME annual meeting. We have also welcomed other visitors on tours, and we have encouraged members of our Steering Committee to speak at meetings of their peers.

- Mark Soares, Director of Operations for Teleflex Canada and a member of our Steering Committee spoke March 14, 2003 in Edmonton Alberta at the CME Alberta Division conference on Lean Manufacturing. His topic, “*What is required to continue the Lean Journey?*” highlighted the need for engaged employees. An updated 2-page information flyer on Team Time was distributed to 350 attendees.
- Andrew McFadyen, former Business Unit Manager, Teleflex Marine Division and original member of our steering committee, made a presentation called *Integrating Lean to Achieve Success* at the Annual CME 2002 conference in Vancouver *Accelerating as Manufacturers*. The presentation featured Team Time as the strategy to involve people. Our 4-page colour information package about Team Time was placed in over 350 conference packages. Also, Teleflex Canada President Harold Copping was featured as the cover story on conference issue of CME magazine, which also added to our project profile at the conference and afterward.



- Teleflex Canada hosted an “Innovations Insights Technology Visits Program Tour” October 8, 2002. The tour was oversubscribed with visitors from the CME annual conference and local manufacturers pressing for last minute opportunities to join in. For Team Time, the theme of the tour was participation and all production cell

leaders met ahead of time and trained together to be able to host important visitors to their cells. Six tour hosts lead groups to eight locations in the facility where the people there took over the visit and answered questions. Team Time was featured at the Helm Cell where a detailed storyboard showed the training that group did as part of their redesign of their production cell. During the group question period that concluded the tour many people praised the high level of participation they saw, and

commented that they have never heard of a company with such a strategy for learning and engaging people in change. The tour was a powerful form of dissemination. We started a contacts list and have kept about a dozen interested companies up to date on Team Time. They have received information and materials.

- We also took part in a tour of organized by Lean Sensei for companies from Alberta and Saskatchewan and told these companies about our approach to team learning. They also received information and the Meetings flip.
- On-going communication with Palliser Furniture of Winnipeg Manitoba has not only carried the relationship on and given us a chance to try long distance mentoring. Representatives from Palliser took Team Time information to the CME Manitoba Division and created interest there.
- During the second half of Phase 2 we had a short “beta testing” pilot at two CME BC Division member companies with grant monies from BC’s Industry Training and Apprenticeship Commission (ITAC). This short project became an important dissemination opportunity in two ways. First, to select pilot companies the Team Time consultants presented at a CME BC Division Board of Directors meeting where they explained Team Time and ran a sample activity. From that meeting eight companies volunteered as possible pilot sites and six were visited. These selection visit meetings were our first time in lengthy conversation with business leaders about Team Time. At one company we met with five senior managers, at most the general manager and often the Human Resources manager as well. Second, the pilots were brief but very well-received. We now have three companies talking about Team Time as a learning approach for their workforce. These testimonials are powerful communications and have put us on the radar of the CME national board chairman.

Although NLS funding did not directly support the ITAC pilot, we see the pilot as a leveraged activity from the NLS support of Team Time to date. It was an unusual opportunity for British Columbia. We include the report of the ITAC pilot in the materials of interest filed with this report for your information.

2. Sustainability

The second group of goals relate to sustaining and marketing Team Time not just through externally and internally disseminating information but also through describing the

necessary conditions for integrated workplace learning. By this we meant not just knowing what Teleflex Canada gains from Team Time training but also what it takes to be a Teleflex Canada. We made considerable progress toward this goal, especially through meeting with six BC Consortium for Manufacturing Excellence member companies about Team Time.

- In order to be ready to implement Team Time and benefit from it, a company has to be building toward, or on a Lean implementation journey, and has to want to go through the kind of cultural shift inclusive participation entails. The company should be keeping metrics to track progress toward goals. More importantly, the people at the company need to be prepared to learn about learning, and to question the pervasive assumption that telling people about Lean, usually with PowerPoint presentations, is the same as teaching them. This is not so, but people continue to talk about Lean as if telling were teaching.

We aimed to build the case for participation in workplace learning like Team Time for manufacturers, for other businesses; for partners and for workers. Our objectives included

- ✓ understanding and describing the Return on Investment (ROI) by measuring operational improvements in the changing business environment
- ✓ involving members from the BC Consortium for Manufacturing Excellence Training Special Interest Group in working on some of the building blocks of the assessment for starting and Scorecards for ROI for Team Time.
- ✓ drawing on the expertise of lean consultants and the CME consortia to build understanding of our process and model among leading manufacturers in BC and through the CME across Canada.

We had limited success in achieving these objectives overall, but some good success in what we think are developmental steps toward fully achieving these goals.

- It has always been difficult to track direct business improvements, such as dollars saved, from Team Time training of production groups. This is due to the many concurrent efforts to improve, to the many factors that prevent production workers from single-handedly affecting their metrics, and to the changing business environment. In Phase Two we tried to pay special attention to ROI this in several ways.
 - The Training Day offered a unique opportunity to focus the attention of a majority of production workers on the importance of on-time delivery, and quality, especially in regards to the impacts on these metrics that are within their control.

- The Purchasing Group is responsible for supplying purchased parts to the production cells. It is easier to show a direct relationship between Team Time learning focussed on what the metrics mean and how to manage them and improvements for this group than for any other group with whom we have worked. The group metrics, and quotes from the Purchasing Group and its internal customers speak for themselves. These are detailed under Impacts of Team Time below.
- For the Training Day, for leaders and managers and for the ITAC pilot groups, we experimented with a personal scorecard to see how participants rated themselves pre and post Team Time training. We found clear progress against the detailed goals of the modules delivered. It is too soon to show long-term results from this kind of tracking.
- The Team Time consultant attended only one meeting of the BC Consortium for Manufacturing Excellence Training Special Interest Group, a Steering Committee member attended two. This group offered some insights into the ROI issue, but they were more helpful individually through the ITAC pilot process than through their meetings.
- The senior managers from the ITAC pilot companies and from Teleflex Canada provided expertise in lean and are helping to build understanding of our process and model among leading manufacturers in BC and through the CME across Canada. We see Team Time as complementary to the other educational activities of Lean training available across Canada, but we need to spend more time clarifying this relationship with Consortia directors and other providers of Lean training so they understand our niche. We have not yet accomplished this part of the objective to build relationships at this level.

3.0 Changes during the project and the reasons for them

Except for the change in the way consulting lean experts played out as described above, the only other changes to our original proposed plans were the additions of the Training Day and the ITAC pilots, this latter happening during the time of Phase 2 but outside the funding and purvey of the main project. Neither of these was anticipated at the time of the proposal; both added value to Phase 2. The Training Day with its large number of worker training hours is responsible for the greater than projected in-kind contribution.



Two images from the Team Time Training Day at Teleflex Canada November 29, 2002. A buyer shows two production workers how to find the Quality System documents on the Intranet (left). Production workers lean in to see and read the company metric charts at the display board.

4.0 Impacts of Team Time

Phase 2 was only seven months long but we still feel we have made impacts on the high-performance manufacturing community in BC. We are on the radar now for the national organization and have been brought to the attention of the national chairman by an enthusiastic pilot company manager. Direct quotations are presented in italics.

At Teleflex Canada, we have tracked the following impacts, or returns on Team Time training.

Following the Training Day, company metrics improved and there was an increasing demand for more training. Some of the impacts of Training Day were felt by the trainers, others by the participants.

“Team Time actually helps me learn how to talk so everyone understands.”

“Delivery is up and the cost of quality is down. But more than that there is awareness and a capacity for greater participation in all kinds of changes.”

“There are three parts to Lean improvement: processes, technologies and people. Team Time is activating our people.”

“It was very good training. A chance to touch base for a very broad group of people. It was brief but it was a way for the company to say we are serious about this. If you want to get information you know who you can go to.”

- The Purchasing Group started Team Time training in November 2002, integrating the training into a weekly meeting and going to new depths in understanding information flow as part of describing their current state. In the first two months of 2003, the Purchasing Group has made dramatic gains in on-time delivery especially with group aggregated numbers of 81% on-time delivery to the end of February 2003 from a start at 68% for December 2002. This is seven months ahead of the target improvement pace. They are also two months ahead in their planned improvement target in inventory turns and have made greater than targeted cost reductions in January and February.

How did this happen? There are many factors but Team Time played a role.

“(The impact of Team Time) shows in the metrics but it also shows in their participation, in their work together and in how open they are in working with others. You are helping me make progress on so many of our goals that I was at a loss of how to make happen.”

“There is significant improvement in parts shortage. (Purchasing buyers) are doing a great job.”

“Ever since we started the meetings, I am thinking about the numbers in a different way. I am way more proactive now.”

- The Meetings infoflip has proven to be a valuable tool for production cell leaders and operations managers. This resource serves as intended as a training reminder and it also helps people remember that there are multi-levelled objectives in their interactions with people: communicating the content and building capacity for more participation. Recently, leaders told us that they were not confident that they understood the meanings of the metric charts nor that they could teach people how to read them. We worked through this critical communication and teaching situation with them and asked that they each try to teach others to read the metrics. Their photo is on the cover of this report. Team Time is having many impacts on new and experienced leaders as they become better at determining what they need to learn and how they want to participate in change. The leaders are helping develop self-tracking tools for leaders and managers. Just last week for the first time a leader developed a meeting interaction mapping tool and shared it with the group.

“(From the leader and manager sessions) I have seen evidence that managers and leaders are applying what we are learning together. For us this means being up front, proactive and taking ownership- I see this as a big benefit towards continuous improvement.”

“I’m trying to get my team members to participate more in and out of meetings.”

“I, for one, have been a better listener and I listen to what they are trying to communicated to me and don’t try to cut them off. I listen to the whole story and then decide what to do with the suggestions.”

- The Steering Committee for Team Time met twice during the project and discussed the business impacts of the project and also the potential interest in Team Time for other CME High Performance Consortia companies. During the time of the project a great many business improvements were achieved at Teleflex Canada. New products were introduced; some production cells were moved to a third building, redesigned and reorganized. Workers who have taken part in Team Time were spread out through new cells. The roles of production leaders are still evolving.
- The company was one of three in BC to be certified as a Lean Manufacturer, and Team Time and efforts to promote participation and understanding were cited as positive elements in that certification.
- At the end of Phase Two in March 2003, for his presentation at the Canadian Manufacturers & Exporters Alberta Meeting in Edmonton, a Teleflex Canada Senior Manager tallied gains made. Employee Team Time training shares the company-wide success including:

In February 2003	In 2000 this was...
> 85% on-time delivery of finished products	65% on-time delivery
7 inventory turns per year	4 inventory turns per year
Fewer parts shortages all the time	Daily multiple parts shortages
Quality efforts focus on prevention	Cost of quality was 2% of sales
Less than 300 first aid log book entries / year	700+ per year
Close to 400 employees	Fewer than 300 employees

These results are company-wide and not just in Team Time pilot cells. This remains an impressive record and one that we believe will interest other manufacturers.

5.0 Highlights and achievements

- Our Steering Committee members have taken a larger role in talking about Team Time within the CME and at two conferences during this project. Also, two of our Steering Committee members have taken time to travel to Ottawa and take part in two different national consultations. Experiences with Team Time have encouraged this kind of new participation in the larger community.
- The tour of Teleflex Canada as part of the CME ATV tour series was an unqualified success. For Team Time, a big part of the success was not just letting other manufacturers see Team Time in action, but also the level of participation from the production group in planning and hosting the tour groups. All of the production leaders and many manufacturing engineers and managers took part in making this an experience that took Team Time to a new level. This tour, for 38 visitors raised the profile of the project among CME leaders who were interested in Team Time results in participation and also with Team Time as a strategy for involving people in learning Lean Manufacturing.
- One of our goals is to pass off trainer roles to people other than the Team Time consultants. We organized a Training Day for 175 production workers November 29, 2002. In order to train so many people at one time, about 30 people were drawn into service as Team Time trainers and helpers.
- Production leaders and managers have taken more ownership of their own Team Time training and have started to define what they need to know, to partly run their own training and for the first time, to develop tools to share.
- The Team Time sessions for the Purchasing Group gave us an opportunity to show dramatic improvements in group metrics as a result of increasing understanding of what the metrics mean, and how the buyers work related to group goals in a situation where there are not many other factors that could account for the improvement.
- We made progress on our goal to track return on Team Time with progress on group and company metrics, though scorecards and rating sheets and other new tools.
- Team Time has developed to a state where the CME BC Division was able to leverage provincial funding for a brief 'beta test' pilot period in which two other manufacturers tried Team Time Training with five Continuous Improvement teams. The testimonials from the leaders of those companies are a powerful dissemination force for us as we gain momentum among the manufacturing community.

6.0 Recommendations

What recommendations would we make to other organizations planning a similar project? We have made a list outlining some of our lessons learned in the past six months.

- Expect many iterations of an evaluation or scorecard tool before you can get one that works in many environments. It is difficult to determine a Return on Training Investment (ROTI) in a real situation because there are always many factors at play.
- Try to practice working in as many ways as possible that are in harmony with the work environment. For Team Time, this has meant continuous revision and improvement. We try to be lean in our report writing, for example and determined ways we could minimize the need to proof-read, by only working in full sentences and by keeping all draft elements in italics.
- Plan for cycles of involvement. In Phase 2 we revisited some of the early themes and participants from the first phase of Team Time. They had changed and so had the materials; the reiteration was a growth experience from both sides.

7.0 Materials of interest

- ✓ New sample materials
- ✓ Self-check scorecards and rating forms
- ✓ Report from the “Beta Test” pilots funded by ITAC, for your information
- ✓ Information distributed at conferences during the project
- ✓ Articles about Team Time and its development at Teleflex Canada

These materials were submitted with this report, but are not available on NALD.