

Canadian Manufacturing Network

Workplace Literacy and Essential Skills Research

Niedner:
French Comprehension and
Grammar



Prepared by:
Canadian Manufacturing Network,
Div. of Excellence in Manufacturing Consortium

Research Authors: L. Gillis, Ph.D., and A. Bailey, January, 2014

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Executive Summary

Niedner: French Comprehension and Grammar

Niedner, a wholly-owned subsidiary of Sanexen Environmental Services Inc., manufactures a wide range of high quality, lightweight, extremely flexible, compact, resistant large diameter hoses (12+ inches). Founded in 1895, Niedner today serves the following markets: forestry, municipal, rehabilitation of aqueduct, industrial, government, automotive, oil and gas, and snowmaking. Niedner offers a wide range of distinctive woven-jacketed hose products. Products include both rubber-lined and lightweight polyurethane-lined versions of fire hose. The plant in Coaticook employs 150 people.

This case study evaluates a training program in French Comprehension and Grammar that was developed for employees to review and gain French writing, grammar, and comprehension abilities with the goal of preparing participants toward earning a High School certificate equivalence. More specifically, the present case study was designed to monitor how the training improved motivation and confidence of the participants as well as workplace quality of work, with an emphasis on increasing employee comprehension of procedures, standards and guidelines. Eleven operators, mechanics and supervisor voluntarily participated in the training with the overall goal of updating their secondary-level certification and improving literacy.

Because the data for this case study is based on a fairly small sample (eleven employees participated in the training and typically between seven and nine employees responded to the survey questions) the results should be treated as 'suggestive' of the training's impact and not generalized to other training audiences.

The findings suggest that the training program significantly enhanced participants' confidence, motivation and capability in applying their learning. All the practices used to facilitate learning, as well as the quality of the instruction, were perceived by participants as effective or very effective.

Forty percent of participants reported that the training helped them improve both teamwork and product quality. All of the managers found a high level of improvement in team efficiency, product quality/reduction of errors, and increased work output.

The findings also suggest that a majority of both trainees and managers found that the learning was applied on the job and that job performance improved. Managers also reported that not only did the training improve organizational outcomes such as efficiency and product quality, but that communication and company morale also improved.

All eight managers reported that the training was a worthwhile investment for the company. In general, managers commented that, post training, participant's now demonstrated increased comprehension of procedures and displayed a higher level of confidence. Participants themselves perceived significant organizational improvements in work output, quality, teamwork and collaboration.

Niedner did not anticipate any tangible monetary impacts from the essential skills training. However, the results achieved suggest the company successfully accomplished several of its original high level objectives stated in the rationale for the training. For example, the Capability survey results unambiguously indicate success, from the participants' point of view, of another of Niedner's primary training objectives, "increasing motivation and confidence of employees." In particular, the program enhanced employee engagement by enabling some participants to finally complete qualifications for their high school diplomas. The training helped others enhance their second language skills to become more comfortable and productive in the organization's bilingual manufacturing setting.

Case Study

Niedner: French Comprehension and Grammar

By Canadian Manufacturing Network with research & report contributed by Lynette Gillis Ph.D. & Allan Bailey, Centre for Learning Impact.

Study Background

Overview of NIEDNER Niedner, a wholly-owned subsidiary of Sanexen Environmental Services Inc., manufactures a wide range of high quality, lightweight, extremely flexible, compact, resistant large diameter hoses (12+ inches). Founded in 1895, Niedner today serves the following markets: forestry, municipal, rehabilitation of aqueduct industrial, government, automotive, oil and gas, and snowmaking. Niedner offers a wide range of distinctive woven-jacketed hose products. Products include both rubber-lined and lightweight polyurethane-lined versions of fire hose. The plant in Coaticook employs 150 people.

Training Rationale The assessment-based training program described in this case study was developed for employees to review and gain French writing, grammar, and comprehension abilities with the goal of preparing participants toward earning a High School certificate equivalence. The training project was made possible with funding from the Commission des partenaires du marché du travail (Québec Government). The present case study was designed to monitor how the training improved motivation and confidence of the participants as well as workplace quality of work, with an emphasis on increasing employee comprehension of procedures, standards and guidelines.

The Training Eleven operators, mechanics and supervisor voluntarily participated in the training with the purposes of updating their secondary-level certification and improving literacy.

Training methods included lectures, discussion groups among the participants, and individual and group exercises.

Specific learning objectives were created to improve participant's abilities to:

- Read and understand memos, instructions or written reports (e.g., operations instructions, task steps, information requests, etc.)
- Identify the subject in a text as well as the general meaning (the facts and opinions expressed, the meaning of words)
- Formulate a response to an information request, complete forms or write a text explaining a situation in relation to one's daily activities.
- Organize one's ideas in written form in view of informing or persuading, or to request information concerning one's work and/or daily activities.

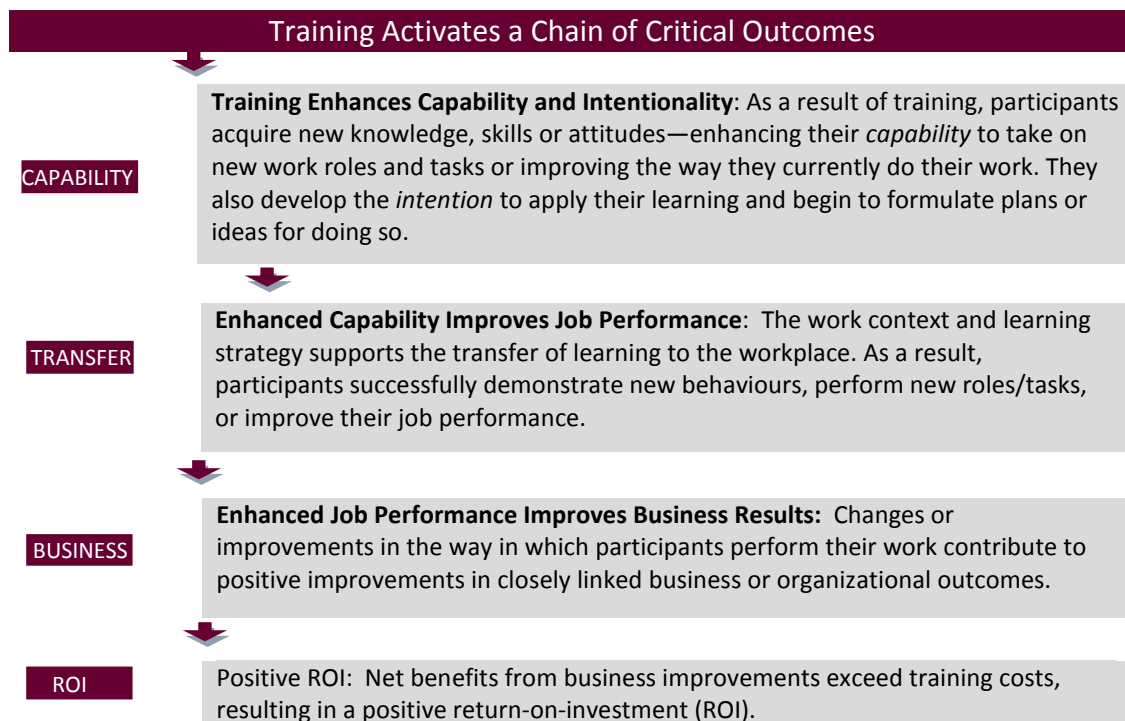
Methodology: High Impact Evaluation

The Case Study Methodology **The Learning Value Chain™** The Niedner case study adopts the Learning Value Chain evaluation approach—the core evaluation framework and instrument-set develop for the Gillis and Bailey High Impact Evaluation model. The Learning Value Chain™ framework offers an uncomplicated, field-tested framework for evaluating the learning effectiveness and the business value of training and human resource investments (Figure 1).

In the Learning Value Chain™, the training program triggers a chain of critical outcomes. Monitoring this chain of outcomes adds an innovative and critically important predictive value to the evaluation process. As desired outcomes are achieved at each link along the chain, greater value is added and the likelihood increases that training will result in positive business outcomes and return on investment. Conversely, if training fails to meet outcomes at any link, value is diminished and the prospect of positive business results and return on investment is at risk.

Using the Learning Value Chain™ framework, the training program is evaluated at each of four links (Capability, Transfer, Business Results and ROI). At each link, data is gathered to assess the extent to which the training has achieved key outcomes, added value and enabled the next critical event in the chain to occur. The Learning Value Chain™ model also incorporates a diagnostic strategy to investigate training practices and strategies that may strengthen or weaken outcomes at each link and subsequently influence business impact and return on investment.

Figure 1
The Learning Value Chain™



Capability Results

Evaluation Questions: Did training participants develop new capability: acquire new knowledge and skills, adopt new attitudes, improve existing skills, or discover new and more productive ways of doing work? Did participants also develop the intention to apply their learning or improve their job performance?

Training enhances learning and had a high or moderate impact on other Capability indicators such as Confidence, Motivation and Perceived Value

To assess Capability—the first link in the Learning Value Chain™—course participants were asked to complete the Capability Questionnaire at the conclusion of the training.

The findings suggest that the training program significantly enhanced participants' capability. Self-assessments by participants suggest overall gains in learning. The majority of learners also perceive the training as "highly" valuable and express a "high" level of confidence in their ability to apply their learning. All learners are "highly" motivated to apply their learning. In the course of training, several participants reported that they had done a moderate level of planning to apply their learning to the workplace and a few had done a "high" level of planning.

Key questionnaire results are described below and summarized for all program participants in the Capability Index (Figure 2).

- **Skills & Knowledge:** Before training, 25% of training participants rate their knowledge and skill level as "moderate" and 18% rate their knowledge as "high." After training, 96% rate their knowledge and skill level as "high", a gain of 78%.
- **Confidence in Applying Learning:** The largest proportion of participants (64%) report a "high" level of confidence in their ability to effectively apply their problem solving knowledge and skills to their jobs. The remaining 36% report a "moderate" level of confidence.
- **Perceived Value:** Most participants (93%) perceive the program's value as "high" (i.e., credible, practical, relevant, and essential).
- **Motivation to Apply Learning:** All participants (100%) report that they are "highly" motivated to apply their learning.
- **Plans for Action:** More than one-third of the group report having developed at least some plans or ideas for using their problem solving skills in their work, and 25% report having a lot of plans or ideas for learning application.

Risk Alert for Transfer

Slightly more than one-third of participants did not develop plans or ideas on how or where they would apply their learning. This low level of 'planning for application' suggests a moderate risk for learning transfer. This implies that transfer outcomes might be enhanced by devoting more time in training to discussion of how, where, or when participants might apply their learning.

Effective Practices All practices used to facilitate learning were rated "effective" or "very effective." These practices were:

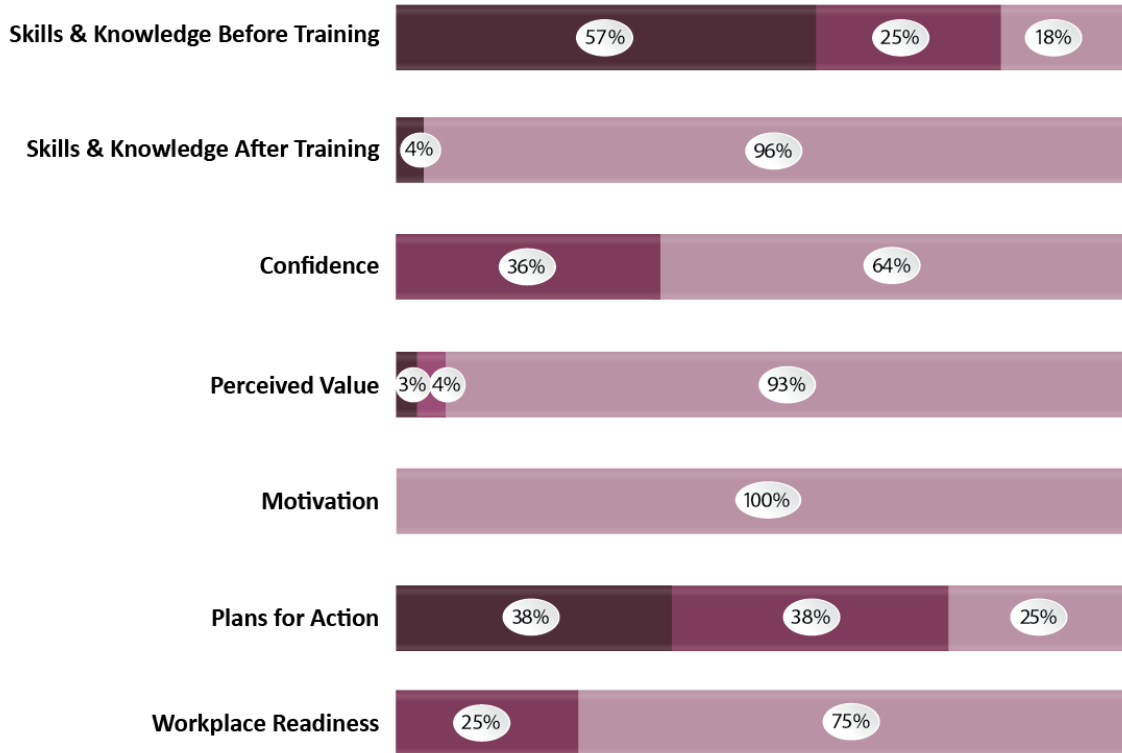
- Providing a calendar of activities or details about the program
- The training program itself
- Re-arranging schedules so co-workers could attend together
- Scheduling training during work hours
- Preventing work interruptions during training
- Using a dedicated training room
- The models, instruments, materials or methodology used in the training
- Pre-work assignment
- Information session for participants
- Group discussions during training
- Forming small study groups

Participants also evaluated the quality of the instruction. They rated all aspects of instruction as "effective" or "very effective." These practices were:

- Presenting key concepts clearly and logically
- Providing realistic and work-related practice activities
- Providing useful responses to questions, guidance, or clarification
- Providing opportunity for learning assessment or reflection
- Clearly communicating the learning and performance objectives
- Engaging and sustaining learners' interest
- Eliciting learners' prior knowledge or experience in related areas
- Providing useful feedback during activities
- Providing opportunity for collaboration, discussion, and learning from others

Niedner Capability Index

■ **Low Rating:** 1 and 2 on a 5-point scale | ■ **Moderate Rating:** 3 on a 5-point scale | ■ **High rating:** 4 and 5 on a 5-point scale



RISK ALERTS: Plans for action: at the end of training, 83% have few or only some ideas or plans for using their training on the job. Typically this low level of planning poses a risk for transfer. In this training, however, it's expected that participants will formulate their plans when they develop their workplace learning project.

Transfer Results

Evaluation Questions: Did the work environment and learning strategy support the transfer of learning to the job? Did training participants apply their learning to their jobs, and did the application of learning impact their work or job performance?

Training improves learning and performance and improves organizational outcomes of efficiency and product quality

To assess Transfer—the second link in the Learning Value Chain™—participants in the training program were asked to complete a Transfer Questionnaire (TQ) approximately two months following training.

The findings suggest that a majority of those who were trained applied their learning on the job, and as a result most participants improved their performance on the job. A majority of participants reported that the training improved organizational outcomes such as efficiency and product quality. All managers observed that their employees applied their learning on the job, and found that most employees improved their performance on the job.

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The Transfer Index that follows summarizes these key results:

- **Learning Application:** 48% of participants report a "high" degree of learning application to their jobs, and 19% report a "moderate" degree. The highest area of perceived learning ability was in reading and understanding memos, instructions or written reports. All of the managers perceived their employees to have a "high" ability to read and understand memos, instructions or written reports, as well as a "high" ability to identify the subject in a text as well as its general meaning.
- **Performance Improvement:** Overall, 53% of respondents reported a "high" level of performance improvement as a result of the training, and 20% reported moderate improvement. In particular, 75% of participants perceived the greatest improvement in their ability to communicate efficiently in writing. All managers perceived a "high" improvement as a result of the training in all areas of productivity and communication. These areas include:
 - understanding and interpreting work documents
 - Communicating with managers and co-workers
 - Communicating efficiently in writing
 - Collaborating and working in a team
 - Quality of work

**Effective Practices
Enabling Transfer**

The following strategies and practices were identified by participants as having contributed to the training's success:

- Sufficient level of knowledge and skill; and support from manager (67%)
- Support from colleagues or peers (44%)
- Adequate motivation and incentive (33%)
- Clear performance expectations; information, reference materials, tools or job aids, and follow up discussions or coaching (22%)
- Other unrated factors included adequate time or resources and feedback on my performance

Transfer Alerts

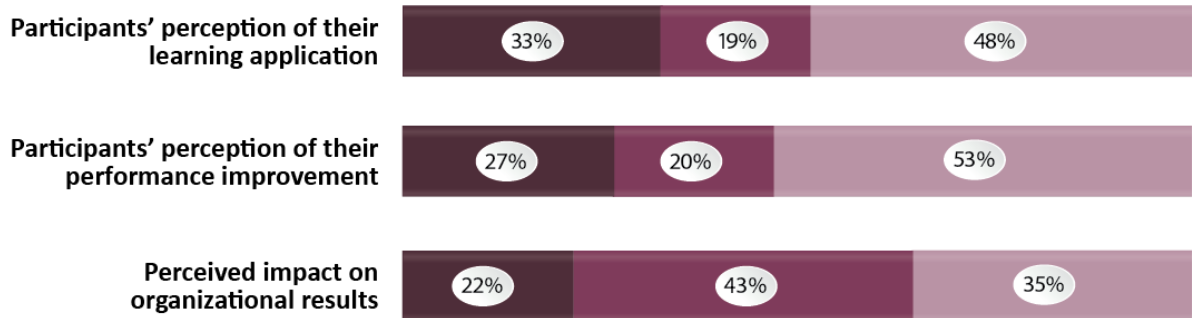
Overall, participants reported very few barriers to learning application.

Important Note

The data for this case study is based on a fairly small sample: eleven employees participated in the training and typically between 7 and 9 employees responded to the questions on the Capability and Transfer Questionnaires. Given the small sample of learners, the results should be treated as 'suggestive' of the training's impact and not generalized to other training audiences.

Niedner Transfer Index

■ **Low Rating:** 1 and 2 on a 5-point scale | ■ **Moderate Rating:** 3 on a 5-point scale | ■ **High rating:** 4 and 5 on a 5-point scale



MOST FREQUENTLY MENTIONED BARRIERS TO TRANSFER: Lack relevant situations or opportunities to apply learning. (2 mentions) Require more knowledge to apply learning on my own. (2 mentions)

Organizational Results

Evaluation Questions: Did the application of learning or improvements to job performance impact business results? What were the intangible benefits from the training?

Niedner has confirmed that it did not anticipate any tangible monetary impacts from the essential skills training. Nevertheless, managers reported that the training not only improved organizational outcomes such as efficiency and product quality, but also communication and company morale.

Perceived Organizational Results

- **Managers:** In the time following the training, all eight managers agreed that the training was a worthwhile investment for the company. All of the managers also reported a "high" level of improvement in team efficiency, product quality/reduction of errors, and increased work output.

In addition, some managers commented that the training:

- Gave employees a better understanding and comprehension of key procedures.
- Helped employees better understand blueprints and more easily use blueprint plans.
- Helped employees develop greater confidence.

Participants: Participants perceived organizational improvements in the following areas:

- **Improved Work Output** A majority of participants (75%) indicated that the training helped them increase work output to a "moderate" or "high" extent.
- **Improved Quality** 80% of participants of participants reported a "moderate" or "high" level of improvement in product quality and/or reduced number of errors as a result of participating in the training.

- **Improved Teamwork and Collaboration** 89% of attendees reported that teamwork and workplace collaboration had improved to a "moderate" or "high" degree following training.
- **Improved Employee Engagement** Several employees reported educational benefits from the training which, experience shows, typically translate into positive, intangible outcomes for the organization. According to Alain Charette, Niedner's Director of Production, the training has enabled several individuals to become more productive employees and at the same time to accomplish personal goals that had so far eluded them. As a result of the training program, for example, the vast majority of the participants were able to complete High School educational qualifications.

“One benefit from the program was enhanced self-esteem amongst the participants and the pride of achieving a diploma, recognized by Québec Ministère de l'Éducation. This is a milestone they were unable to attain during their teenage years.”

The training has also helped employees become more comfortable and productive in the Niedner's bilingual manufacturing setting. "One participant, an English first-language supervisor," says Charette, "for the first time is able to send his emails and communications entirely in French”

Although Niedner did not identify specific tangible business measures (i.e., increase in units produced, reduction in scrap) impacted by the learning program, designed to prepare participants toward earning a High School certificate equivalence, these intangible outcomes nevertheless suggest the company successfully achieved several of the high level objectives stated in the rationale for the training. Results from managers and participants, for example, argue convincingly that the training indeed helped Niedner achieve its goal of improving "productivity outcomes" as well as the overarching goal "to instill in employees a better understanding of the factors and procedures affecting quality."

Additionally, the Capability survey results unambiguously indicate success, from the participants' point of view, of another of Niedner's primary training objectives, "increasing motivation and confidence of employees."