Many people would like to increase their effectiveness and efficiency in making changes that result in improvements. They can do this by becoming more skilled at answering, or helping others to answer, the three fundamental questions for improvement introduced in Chapter One. In addition to increasing their knowledge of the activity or thing they want to improve, what should people be learning to help themselves become more skillful at answering these questions and making improvements? People have found that after becoming comfortable with the basic form of the Model for Improvement, a study of the following five areas expands their ability to make improvements:

1. **Using data:** What is it? Why do we use it? How do we use it to learn? What information is contained in the patterns of variation in data? Where does variation come from? How can we use this information to guide actions for improvement?
2. **Developing a change:** What is change? Where do ideas for change come from? What should one consider when trying to develop change aimed at a long-term positive impact? How will the change affect other people and areas?
3. **Testing a change:** Can we be sure that the change we have developed will result in improvement? How can we test the change? Will the test allow us to predict improvement once the change has been implemented?
4. **Implementing a change:** It is not enough to know that a change would be an improvement. What are the barriers to making a change permanent? What is the role of the PDSA Cycle in implementation? How can resistance to a change be reduced?
5. **Working with people:** How do we obtain the cooperation necessary to make and sustain improvements? How do people manage change? What motivates people to make improvements?
Using Data

To make effective changes we have to be observant. We have to look around our world and notice what is happening before the change and what is different after the change. The use of data plays an important role in moving from the trial-and-error approach described at the beginning of Chapter One to a trial-and-learning approach. The collection and analysis of data are important when a cycle is needed to answer any of the three fundamental questions in the Model for Improvement, and they are important any time a cycle is used to test or implement a change.

Observation is an important source of learning while trying to improve. There are, however, some weaknesses associated with relying only on observation. Our minds filter observations. Often we observe only what we want or expect to observe. Also, our present observations are affected by our past observations, especially those in the immediate past. For example, a temperature of fifty degrees Fahrenheit will feel warm if the previous week's temperatures were in the twenties, and quite cold if the temperatures were in the eighties. The use of data helps overcome these and other weaknesses of using observation alone.

When the word "data" is mentioned, most people immediately begin to think about computers, engineering, statistics, and other highly technical disciplines. If you take a minute, however, to think about activities that you are regularly involved in, you will see that the collection and use of data are common to everyone. For example, in most sporting activities (such as bowling and golf), the collection of data is quite extensive. Each of these activities has its own special data collection form (a score card) that is recognized and used by hundreds of thousands of people. Our children bring us data on how their education is going (report cards and test scores). Our banks send us data on our financial status. Some people track the gas mileage of their cars, or their weight. And most people keep data on income and expenses, which they in turn summarize and give to the Internal Revenue Service.

Data may be defined as the documentation of an observation or a measurement. Examples of data include a video recording of your daughter's basketball game, an entry in a personal journal, the numbers written in the register of your checkbook, a record of how much you weigh each Monday, or a log of the gas mileage of your car. How many times have you written a shopping list, a check, or used a credit card? You were involved in the creation and collection of data.

The Power of Data

When data are collected, something happens: the act of collecting data can cause change to occur. If you want to reduce the occurrence of a problem, such as the number of interruptions you experience or the amount of time it takes to
respond to a phone call, just start to measure or record observations. This action alone may trigger the desired reductions. The act of measurement itself can often move things toward the results you want.

Focusing on data can also help you begin to recognize when useful information is being generated and when it is not. For example, when a supervisor at the state's department of motor vehicles asked a relatively new employee how his job was going, the employee replied, “Fine.” When the supervisor asked him about his workload, he replied, “Fine.” When she asked him if he was getting used to the computer system, he said it was going (you guessed it) “fine.” The supervisor wanted to know whether the employee wanted or needed help in any aspect of his job, but the response she got from him provided her with no useful information. She decided to help the employee collect some data.

Together they constructed a form to collect and display the data. The chart shown in Figure 2.1 is the result of one week of data collection. It is easy to see that the chart gave the employee a way to discern problems that occurred while he was doing his job. Both the employee and supervisor could see that the computer system was causing the employee many problems. Being able to distinguish “accessing other files” from other computer activities allowed them to know where improvement was needed.

**Learning from Data**

In the diner example in Chapter One, the owners collected data on the amount of time that customers had to wait in line during the lunch rush hour. To understand the impact of the change they had made, they plotted the data over time (see Figure 1.2). Another example is the use of data collection to help a child improve his or her study habits.
Sharyn recorded the time she spent on homework each day for a month. She could see from a chart of her time spent studying that the reason she always complained on Sunday night about all the homework she had to do was that she did no studying on Friday and Saturday. Sharyn decided to find an hour to study on Friday (right after school) or early Saturday morning. After making this change, Sharyn no longer had to spend two hours or more studying on Sunday night.

Figure 2.2 shows the data that Sharyn collected. Plotting data over time maximizes the learning from any data you collect and allows the information to unfold as it happens and eventually display a pattern. It is hoped that the pattern will show improvement, as Figure 1.2 does for the diner, or an opportunity for improvement, as Figure 2.2 does for Sharyn.

Data can also be collected on what people think and how they feel about something. You could ask people to simply respond to a simple question, such as "Is this format for the newsletter easier to read than the normal one?" It is also very easy to have people rank things. You could give them each a list of items and ask them to place a one beside the item they think is most important, a two beside the next most important item, and so on. You could also ask people to rate a new procedure or piece of equipment on its ease of use according to the following scale: poor, fair, good, very good, excellent. These methods can be used to measure people's reactions to changes.
Understanding Variation in Data

There is variation in all aspects of life. Household expenses, stress level, weight, time spent traveling to work, and a car's gas mileage will vary over time. There are also variations among people. The ability to perform a task, intelligence, method of learning, and perception of quality all vary from person to person, as well as over time for each individual.

There is variation among institutions. Profit margins vary from company to company in the same industry, and from quarter to quarter for an individual company. Test scores differ for students in different schools. Community crime rates vary from month to month. Success rates for the same operation vary from hospital to hospital and over time for individual hospitals.

People are constantly having to make decisions based in part on their interpretations of the variation they encounter. Is it time to have the car tuned up? Is my child's school work improving? Is crime increasing in my community? In the early twentieth century, Walter Shewhart developed the concept that variation should be viewed in one of two ways: either as variation that indicates something has changed or as random variation that is similar to variation that has occurred in the past and does not indicate that a change has occurred. Decisions should be based on the nature of the variation.

Bill had been on his new diet for two weeks, but the scale said he weighed two more pounds than he had the day before. Bill knew it would take a while to lose weight, but he didn't think he should be going weight. He decided to give up on his diet.

Figure 2.3 is a chart on which Bill's weight, taken every morning for one month is plotted. Notice that although the weights vary, their variation appears to be predictable within a range of 164 to 168. Although Bill was not yet losing weight, the chart indicates that he was not gaining weight either. If Bill had used such a chart, he might have decided to stick to his diet.

A key idea behind Shewhart's concepts is that one should not react automatically to each observation. Data should be plotted over time. This approach allows one to observe the patterns in the data and understand when a change has occurred.

The administrators of the hospital were worried. The total number of patient beds being used was down. Some of the administrators said it had been going down for a while, others thought the drop was more recent. But the real arguments started when they discussed why it was down and what they were going to do about it. Would it continue to go down? They decided to plot patient bed use for the previous five years (see Figure
Skills to Support Improvement

On an individual or a community level, weight, level, and crime rates vary from person to person, as does intelligence, car maintenance, and the reaction to a change in an emergency clinic. The hospital administrators were able to determine when a change occurred by viewing the patterns in the data over time. If data are available from both before and after a planned change, a plot of data over time can be used to see if

---

**Figure 2.3. Daily Weight Readings.**

**Figure 2.4. Five Years of Monthly Data on Patient Beds.**

2.4. The variation revealed on the chart indicated that the biggest drop had occurred two years before, at about the time that a group of local physicians had started an emergency clinic.
the change caused the level of improvement that was predicted. In the diner example in Chapter One, for example, the amount of time customers spent in line averaged fourteen minutes and varied between ten and eighteen minutes before the changes were introduced (see Figure 1.2). After the change, the variation was altered. The new average was five minutes and the new high and low were eight and two minutes. This increased the owners' belief that using a fax machine would lead to improvement.

Shewhart's concept of variation is important for answering the third improvement question: What changes can we make that will result in improvement? If the common, everyday variation in the data is disturbed by some specific circumstance, as shown in Figure 2.4, improvements can be developed by understanding what these special causes are. If the variation that is seen is all simply random within a predictable range, more fundamental changes are usually needed to bring about an improvement. This is the situation now faced by the owners of the diner.

Often, plotting the data over time is enough to pinpoint when the variation is no longer following a predictable pattern. The chart may show an isolated observation or two that are outside the normal variation, or it might show a new trend. The data plotted in Figure 2.5 were taken by a young man who was trying to learn to deal with his asthma. The readings were made to test for lung capacity using a Wright Peak Flow Meter. The man took readings twice a day for ten days and then one reading per day thereafter. On the thirty-first reading, it was obvious that his lung capacity was reduced. He started his medication on that day. Collecting and plotting the data helped this young man reduce the frequency and severity of his asthma attacks by allowing him to react quickly to special circumstances.

![Figure 2.5. Data on Asthma Patient's Lung Capacity.](image-url)
When confronted with the need for change, the first response is usually to attempt a previously tried change. More of the same (more money, more people, more checking-up and inspection, more equipment, more rules, and so on) is a common response. The improvement, if any, that results from this type of response usually is costly and does not last long. Another problem response is to get all tied up in trying to define the perfect change. This approach usually leads to nothing being done. People become so busy developing the perfect change that they do not have time to develop and test some good ones.

In the diner example, the change chosen—using the fax machine to take orders—was outside the normal way of doing things. The owners could have responded to their need to improve by hiring more employees and/or by moving to a larger location. This would have cost more than the change they came up with, and it may very well have hurt rather than helped the service to their customers.

What we have found is that most change that results in long-term effective improvement comes from one of the following sources:

- An understanding of processes and systems of work
- Creative thinking (looking for a change outside the normal approach)
- The appropriate use of new or existing technology

We discuss here the first two approaches to change; all three approaches will be presented in more depth in Chapter Five.
One of the first ideas to grasp about systems is the concept that all work is a process. Driving to work, cutting the lawn, paying bills, and shopping for food are all processes that everyone performs in daily life. The concept of a process provides a structure for making improvements in any situation.

A process is a set of causes and conditions that repeatedly come together in a series of steps to transfer inputs into outcomes. By thinking about daily activities (work, play, tasks, and so on) as processes, we gain a perspective for making improvements. All processes have inputs, all processes have steps, all processes have outcomes. Inputs, steps, and outcomes provide tangible elements that can be measured, on which data can be collected, and around which changes can be developed and tested. For an individual or organization that is just beginning to develop skills of improvement, creating standard processes to replace chaotic activity is an important source of improvement. An example of a process is obtaining a blood analysis for a patient at a hospital, illustrated in Figure 2.6.

As people advance in their skills at making improvements, they realize that bigger improvements can be made by putting processes in the context of the system in which it is embedded. Then, changes to the bigger system can be developed. A system is an interdependent group of items, people, or processes with a common purpose. Driving to work is a process. Getting a family out of bed, fed, dressed, and transported to work and school is a system. The process of obtaining a blood analysis for a patient, is part of the bigger system of providing health care for a patient in a hospital.

To develop effective changes, people need to understand the nature of the relationships among the processes that make up the activity they are trying to improve. In a system, not only the parts but the relationships among the parts become opportunities for improvement. These relationships or interdependen-

![Figure 2.6. The Process for Obtaining a Blood Analysis.](image-url)
Skills to Support Improvement

...that all work is a part of a process. For example, shopping for food is a process. The concept of a process is not new, but it can be applied in a new way. And that can prevent the results of various improvement efforts from joining together in a straightforward way. In a system, everything affects everything else. Someone may make a change in his or her area that results in improvement there, but the same change could harm the overall system. From the customer's viewpoint, things could be worse than before.

An interesting example of thinking about systems is the debate over the minimum wage. Most people support the common purpose of improving the pay of people at the lowest end of the wage scale. Some advocate increasing the minimum wage to be paid to anyone holding a job. Others argue that such an increase would actually hurt a large number of people because companies would eliminate jobs rather than pay the higher wage.

When fundamental changes are developed, the purpose, structure, and interdependencies within the system must be considered. An appreciation of the interdependencies within a system also verifies the need to test changes on a small scale.

Creative Thinking

A group of nurses and physicians wanted to reduce the time and cost associated with patients recovering from hip replacement surgery. They were asked to consider doing some of the hip replacement steps in a different order. The team first listed and then rearranged the steps in the current process. This led to developing a change to begin some of the rehabilitation before the operation (prehabilitation). The result was improvement in many aspects of the hip replacement process. The surgery itself went better because the patient's body was in better shape (due to the prehabilitation therapy). Consequently, the patients recovered quicker, saving them both time and agony.

Before the idea of changing the order of steps in the hip replacement process was introduced to the nurses and physicians, they had assumed the order was fixed. They assumed that rehabilitation always comes after surgery. The challenge to those who want to develop changes that result in improvement is to think outside the normal pattern.

Where do people find new thought patterns? Where do new ideas come from? There is more than one approach to developing new ideas, but we have found the following methods to be useful in a wide variety of situations:

1. Challenge the boundaries. People can be limited in their thinking by the boundaries they impose in a particular situation. To challenge these boundaries, begin by listing the boundaries within which a change must occur. Many times the boundaries define the current system or how people view it. Real changes to the system are often outside of the original constraints. Once the boundaries are...
listed, think about how they can be expanded or even eliminated. Sometimes this method leads to ideas that need to be further explored before they can become useful or be discarded. Other times, testable ideas for change are the direct result.

During a discussion among the employees and the owners of the diner, someone said that one boundary was that the person taking the orders had to match the speed of the people preparing the orders. When this boundary was challenged, people started to think of other ways that orders could be taken. The idea of a faxed order evolved from that discussion.

2. **Rearrange the order of the steps.** List the activities involved in the process or system in order and then move them around. Seeing the steps in a different order—for example, rearranging the steps in the hip replacement process—can provoke ideas for change that the regular order prevents. This idea is really a subset of the first idea since the order in which things are done is a boundary. It is worth mentioning separately, however, because it is so simple to do and often produces significant improvement.

3. **Look for ways to smooth the flow of activities.** Fluctuations in flow cause a ripple effect in all other aspects of the system. When the flow is smoothed out, things can get done in a more predictable way. For example, the owners of the diner could have looked for ways to smooth the flow of customers. Perhaps they could have enticed some customers to an early lunch at a special price. Late lunchers could have been given free tea or soda with their meal. The result would have been more customers spread out more evenly across the lunch period.

4. **Evaluate the purpose.** Challenge why you are doing something. Take a close, hard look at the reason behind the activities on which you are focusing. This approach often produces ideas for change such as eliminating steps that are not vital to the purpose. Often, when people have been involved in an activity for a long time, steps and material have been added to the process or system that were perhaps needed at one time but are no longer necessary.

A woman was teaching her daughter to cook a pot roast. She taught her to cut off the ends of the roast before putting it in the pot and cooking it. The young girl, not knowing any better, questioned her mother as to the reason for cutting the ends off. The mother answered that it allows the cooking to draw out the flavor of the roast better. But the young girl's question started her wondering about the real reason. She eventually called up her ninety-three-year-old grandmother to ask about the source of this family tradition. The
5. **Visualize the ideal.** Describing aspects of the situation in an ideal state can generate new ideas for change. The phrase “Wouldn’t it be nice if...” is an example of a visualization that can start the formation of ideas.

An organization was experiencing long delays in responding to the many requests for its brochures. The requests could arrive through many different departments, and each department would generate forms documenting the requests. The forms were then passed around (or buried in someone’s in-basket) before reaching the distribution center. A team formed to improve the process asked themselves, “Wouldn’t it be nice if no forms were needed?” This question helped them to focus on the use of the computer networking system to allow anyone to forward requests for brochures directly to distribution without the need for any paperwork.

6. **Remove “the current way of doing things” as an option.** New ideas for change are needed if the current system is not an alternative. Begin by understanding the current system. Then declare that part or all of the current way of doing things can no longer be used. Let people explore the possible alternatives.

Everyone believed that George kept the place running. Each morning, George would get the manufacturing schedule and go from station to station to make sure everything was in place to accomplish the day’s goals. If a packaging line was down, George would rearrange the schedule to keep everybody busy. It was hectic, but it seemed to work—except when George was sick, taking one of his five weeks of vacation, or just in a bad mood. Efforts by the plant manager to get the production department to improve the scheduling process had met with opposition. People were afraid to disrupt this fragile situation. So, the plant manager announced that starting in three weeks George would no longer be involved in scheduling. People immediately began to develop a new way of scheduling that required increased cooperation among the planning, production, and quality assurance departments.

When ideas for change are being developed, it is important that everyone involved put forth a creative effort. Time should be devoted to thinking of changes that are not the standard solution.
Mark was very frustrated about the way the meeting was going. He wanted to reach agreement on some ideas for change that could be used to improve responsiveness in a critical area. He had even tried some new creativity methods that had been suggested to him. However, every time an idea was suggested, Kathy would offer some reason why it would not work. Then John would become highly emotional and express some strong feelings about the impact of the change. At least Lisa was attempting to be optimistic about the different ideas, but it still did not seem that any progress was being made.

Mark was experiencing the many different ways that people think. The people on a team devoted to developing changes should understand that there will be time to express critical and emotional thinking once the ideas for change are further developed. The development of change is explored in great depth in Chapters Five, Ten, Eleven, and Twelve.

**Testing a Change**

How many times have we all been involved with a change that turned out to make things worse instead of better? How can we avoid this kind of catastrophe if we are busy making changes with the hope of improvement? Once a change has been developed, the answer to the question *What changes can we make that will result in improvement?* should be further explored by testing the change. Testing is a way of putting the change into effect on a temporary basis and learning about its potential impact. Testing helps to predict whether a change will be an improvement. The PDSA Cycle provides the framework for testing a change.

The idea of testing a change does not seem to come naturally. People tend to want to solve all their problems with one change, and they try to implement the whole change with one plan. Being successful at testing changes requires a very different approach. A test should be designed so that as little time, money, and risk as possible are invested while at the same time almost as much is learned from the test as would be learned from a full-scale implementation of the change.

Janet needed to find out how the parents of her students would react to a change that required the parents to help out at the school for a certain amount of time each month. Many of the teachers and the administrator wanted to write a letter to the parents simply informing them of the new requirements. Janet convinced them to first test the change instead. One parent from each grade was invited to attend a meeting at which the school’s plan would be presented. The parents felt uncomfortable with the required aspects
of the plan, but they had many good ideas for generating parent involvement with the school. Some of these ideas were tested and successfully implemented in later cycles.

Testing a change often makes people nervous about the results. Sometimes the results of the test turn out opposite from what was predicted, but the learning that comes from the test is significant. Unfortunately, many see this result as a failure. Those people who are good at testing changes consider it a normal occurrence to have the results of a test be different from what was predicted. The success of a test lies in what is learned from it, no matter how it turns out. The focus is on the learning, and on the belief that the learning will eventually lead to a successful change.

When a change is tested with multiple PDSA Cycles, and as each cycle brings the change a little closer to being a permanent part of how things are done, the ability to predict the results of the test gets better. When it becomes possible to predict the results, it is time to consider making the change permanent. As was pointed out in the sections on data and variation, plotting data over time is extremely helpful in predicting how things will turn out.

Another factor to consider when testing a change is that circumstances will be different in the future. In other words, even though the test worked well, it is possible that next month the change may not work.

Ryon wanted to speed up his process of delivering newspapers every morning. He decided to test the idea of reversing the order of his deliveries. Even though this meant starting at the farthest point from his house, it made it possible for him to pick up more papers from a central location as he needed them. He did this for a week. The results were that it took him twenty fewer minutes each day. Two weeks later, when the rainy season started, he saw the flaw in his change. His new route did not provide him with a way to keep his central supply of papers protected from the wind and rain.

The key principles for testing a change are:

- Keep your tests as small-scale as you can and rely on multiple cycles to achieve your overall aim.

The owners of the diner rented a fax machine for one month to test their change. After the one-month test showed improvement, they bought the machine. Subsequent cycles at the diner were used to refine and monitor the use of fax ordering and to test other changes, such as phone orders, deliveries, and so on.
• Include conditions in your test that will affect your change in the future, and collect data over time to measure the impact of your change under differing conditions.

It was by collecting data on the amount of time customers spent waiting in line that the owners of the diner were able to see the improvement that resulted from their change, despite varying conditions. Continued monitoring of the impact of fax ordering in future cycles will allow the owners of the diner to learn about the impact of other conditions. They should use their knowledge of the lunch business to predict how the use of the fax ordering system might change from summer to winter, or how the rainy season might impact the number of fax orders.

A large body of knowledge is available on planning and performing tests. It is not necessary to run sophisticated experiments to test changes. However, using the principles described earlier will speed up the rate of improvement. Chapter Six explores in greater depth the concepts and methods for testing a change.

**Implementing a Change**

Because of a change in the county tax laws, the clerks in the tax processor's office were given a new way to verify tax status and to calculate changes in taxes owed. Six months after telling the clerks about the new procedure, Bernie, the supervisor, discovered that about one third of the tax bills being processed were being verified and calculated using the old method. Why had this happened? What could Bernie have done six months earlier to prevent the clerks from slipping back to the old procedure?

Implementing a change means making it a permanent part of how things are done. Implementation differs from testing in several important ways. First, testing a change is not permanent. There is no need to create a support structure (training, documentation, standardization, and so on) for the change beyond the testing period. To implement a change, support processes have to be implemented at the same time. Second, while the results of a change that is being tested are uncertain, it is wise to implement only a change that you are very sure will result in improvement. Third, since a test is usually conducted on a small scale, fewer people will be involved in the test than in the implementation of the change. This means that the resistance to the change will likely be much larger with the implementation than with the test. Successful implementation requires activities to address and minimize the resistance.
Depending on the situation, change can be implemented in a number of ways. In very simple cases, it is just a matter of doing it. Implementation could be as simple as following a flow diagram for a new process. Nevertheless, the PDSA Cycle should be used to study the impact of even apparently simple changes to ensure that the predicted results are achieved. The effect of the change on the people involved should also be considered. The implementation cycle helps to ensure that the predicted results are achieved and the change is irreversible.

If the change is not simple, it can be implemented parallel with the present way of doing things to lower the risk. The implementation can also be accomplished in phases, which will require multiple PDSA Cycles.

After developing and testing a change that you are convinced will result in improvement, you of course want the other people affected by the change to accept it. The reaction of other people to the change can range from total commitment to open hostility (strong resistance). The following guidelines help to reduce resistance to change:

- Begin by letting people know why a change is needed. This should be done as soon as the aim question—What are we trying to accomplish?—has been answered.
- Continue to inform everyone who will be affected by the change of the progress being made during the development and testing of the change.
- Give specific information on how the change will affect people.
- Get input from others on how to make the implementation successful.

Once improvements have been implemented, consistent ways of doing the work usually need to be created. This could involve establishing standard ways of performing work activities, training, documentation, and measurement to ensure that the change becomes the normal way things are done. Some change in the system is usually required to ensure that the change is maintained and the desired improvement realized. Many people make improvements only to discover later that things have somehow returned to the old level or that some new problem has been created. More detailed methods for insuring the success of implementation are presented in Chapter Seven.

**Working with People**

A team of physicians, nurses, and staff of a large multispecialty clinic had developed a system to drastically reduce the amount of time that physicians were behind schedule in seeing patients in the office. They had tested the system in one area of the clinic and ver-
ified that it worked. They spread the word around the clinic about the new system. One month later they were discouraged that the system had not been adopted by any part of the clinic except the one involved in the original test.

People play an important role in almost all improvements. Most improvement efforts involve an informal or formal team of people. Therefore, basic skills of listening, resolving conflicts, and running effective meetings are necessary. Simple things, like having an agenda for any meeting that might be necessary, can speed the improvement effort and result in more effective changes. The three improvement questions and the PDSA Cycle provide a very useful structure for running any meeting, formal or informal. Using a common approach to improvement, such as the Model for Improvement presented in Chapter One (see Figure 1.4), is very beneficial to any group of people who are working together in an improvement effort. Using the model is a skill, and like any skill the more a group of people use it together, the better they get at using it. Using a common approach develops a shared language and understanding that speeds up the whole process.

Developing a better understanding of differences in people and how they are motivated will greatly increase your ability to cooperate with them to develop and implement effective changes. The importance of skills for relating to people can be better understood by considering the three fundamental questions. The questions are focused on making a change. Most changes require people to do something different. The success of a change often depends on the decisions and support of all the people involved.

In some cases, a person or group of people will need to take a loss or give up some control as part of the change. People must be willing to cooperate for the benefit of the customer or the organization as a whole. A group of people exhibit cooperation when they work together toward a common purpose. An organization that focuses on the customer rather than inward on itself will more easily be able to agree on a common purpose. The Model for Improvement stresses the need for this common purpose through the question, What are we trying to accomplish? Different parts of the organization may be trying to accomplish different things, however, so not everyone will be as interested in your improvement effort as you are.

Successful implementation of change is greatly enhanced by the realization that different people have different concerns when faced with developing a change. These concerns can be elicited and recognized by including multiple measures when answering the question, How will we know that a change is an improvement? Including a measure that relates to people's concerns and interests allows people to be more cooperative and creative in answering the question, What changes can we make that will result in improvement?
Skills to Support Improvement

Psychology provides understanding about what makes people resist or accept change. Two things that can cause people to embrace change are discomfort with the current situation and/or an exciting picture of a possible better way. Just as important, psychology provides ways to reduce people's fear of actually making changes. One way is to remind people that they can test changes on a small scale. It is often psychologically difficult for people to develop fundamental changes because of the risk involved. Testing changes on a small scale minimizes risk and thereby helps alleviate people's fears. (Chapters Seven and Thirteen address in detail the people issues that arise when making improvements.)

**Conclusion**

This chapter has introduced five skills that will enhance the effectiveness of anyone interested in applying the Model for Improvement: using data, developing a change, testing a change, implementing a change, and working with people. Each of these skills is expanded upon in Parts Two and Three of this book.