



supporting Labour Market Attachment

Problem Solved! Strategies to Solve Problems in the Workplace

Developed for:

Human Resource Skills Development Canada (HRSDC)

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Description:

This guide was developed to support workplace training through the use of samples and suggested activities. A person responsible for on the job training (OJT) can integrate an appropriate sample and use the suggested models and tools included here.

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Introduction

Essential Skills are the skills needed for work, learning and life. They provide the foundation for learning all other skills and enable people to evolve within their jobs and adapt to workplace change.

The ability to problem solve and offer appropriate solutions to issues encountered in the workplace, is frequently cited by employers as one of the most significant attributes to have in today's workplace. No matter the level of skills or salaries, all jobs today need workers that can think things through. Employers, unions and workers will benefit from a "problem solving curriculum" particularly when the curriculum is customized to present an understanding of the issues directly related to an individual's job.

This guide was developed to support workplace training through the use of samples and suggested activities. A person responsible for on the job training (OJT) can integrate an appropriate sample and use the suggested models and tools included here.

The situations described in the 15 samples represent actual situations. They have been made more generic for broader application and to protect proprietary material. You are encouraged to use your own authentic workplace materials to illustrate a workplace situation.

How to Use the Guidebook

The guidebook is intended to support internal workplace specialists who need to develop materials and training that is workplace specific. The samples contained within the guidebook cover many organizational contexts and are intended to provide examples of how to integrate problem solving into other job specific training. The workbook is divided into four sections. Should the four sections be listed here?

The Essential Skills overview helps the reader understand how problem solving fits within thinking skills. We also suggest using the problem solving examples in other essential skills training.

First, instructional strategies are included along with tips for the developer to best adapt the sample to the workplace environment. This includes adult education principles and guidelines for how to measure the success of the problem solving examples.

Also included is a section on Organizational Training Readiness. A checklist is provided for you to determine how ready your organization is to use the tools here. You can use the questions to measure Return on Training Investment (ROTI) to gauge internal or external training. The introduction to organizational context is designed to anchor your problem solving examples within an appropriate context. The range of examples is broad and the applications many. We hope the reader will find samples that closely resemble the job level, the sector, the organizational culture or workforce they are in.

The Problem Solving Methods and Approaches section provide several models. Each demonstrates a similar process and can be used in different circumstances. Select one of the models that most fits your needs. Two tools to help the learner identify the cause of the problem are also included with activity worksheets in the appendix. The complexity dimensions in the Essential Skills model illustrate a problem-solving process: identify the problem, determine the cause of the problem, identify possible solutions, and assess the solutions to select one.

Essential Skills

Source of Information: Human Resources and Skills Development Canada. (2007). *Essential skills*.

Nine Essential Skills

Essential Skills are the skills people use to carry out a wide variety of everyday life and work tasks. Essential Skills are not the technical skills required by particular occupations but rather the skills applied in all occupations. For example, writing skills are required in a broad range of occupations. The complexity and frequency of writing varies, of course. Some workers fill out simple forms every day, while others write daily or monthly reports.

Essential Skills enable people to do their work. For example, people who repair appliances may have to read and understand written work orders before they can do the repairs.

Essential Skills are **enabling skills** that:

1. Help people perform the tasks required by their occupation and other activities of daily life
2. Provide people with a foundation to learn other skills
3. Enhance people's ability to adapt to change.

The nine essential skills include:

1. Reading Text
2. Document Use
3. Writing
4. Numeracy
5. Oral Communication
6. Thinking Skills
 - Problem Solving
 - Decision Making
 - Critical Thinking
 - Job Task Planning and Organizing
 - Significant Use of Memory
 - Finding Information
7. Working with Others
8. Computer Use
9. Continuous Learning

People who have the essential skills at the levels required for their desired occupations will have enhanced employability. However, there are other factors that also enhance employability. For example, the Conference Board of Canada's *Employability Skills Profile* also includes items such as honesty, persistence, and a positive attitude to change. Higher skilled occupations, of course, also require a variety of technical skills.

Thinking Skills – Problem Solving

Problem Solving is one of the components of the Thinking Skills Aspect of the Essential Skills Methodology. The other elements of thinking skills include job task planning and organization, decision-making, critical thinking, significant use of memory and finding information. It is important to note that the ability to solve problems is not simply an isolated skill but an accumulation of skills based on a foundation of many essential skills.

In the Essential Skills Methodology, there are four developing levels of complexity, (level 1 low – level 4 high), based on four dimensions of problem solving:

1. The complexity of the problem
2. The complexity of identifying the problem
3. The complexity of identifying the solution steps
4. The complexity of assessing the solution

Each level of the Problem Solving Scale used in this guidebook is defined with reference to all four dimensions. Tasks that are more difficult, on one dimension of the complexity rating scale, may be more or less difficult on the other dimension, as each of the four dimensions function somewhat independently. For example, the complexity of “identifying the problem” may fit in level two while the complexity of “assessing the solution” fits in level three. The complexity rating assigned to a task is the best summary description of its level of complexity. The Problem Solving Complexity Rating Scale is as described on the following page.

Problem Solving Dimensions and Complexity

The focus will be illustrated for solving problems at levels one, two and three as shaded.

Dimension	Level 1	Level 2	Level 3	Level 4
Complexity of the problem	Limited number of factors	Broad range of factor, most of which are clearly defined.	Broad range of factors, some of which may be vague or ambiguous.	Unpredictable and contradictory factors play a role.
Complexity of identifying the problem	All appropriate information is provided to solver.	Procedures are provided for determining the nature of the problem.	Solver must determine what procedures are to be used to identify the nature of the problem.	Solver must create procedures to identify the nature of the problem.
Complexity of identifying the solution steps	Procedures are given for matching a solution to the problem, once it has been identified.	Solver has to determine which of several available solutions are most appropriate.	May have to modify existing procedures for solving the problems to meet new needs	Solver must create procedures for solving the problem.
Complexity of assessing the solution	Check that problem has been solved.	Assess efficiency and effectiveness of solution that was used.	Assess efficiency and effectiveness of solution that was used and identify changes needed.	Solver must identify or create criteria for assessing the effectiveness of the solution.

Organizational Context

One of the complexities in problem solving is organizational context. Changing the context can also create problems, particularly with adapting to the new circumstances. These circumstances can occur in all facets of the organization—structure, organization, technology, people, and culture. The context is also specific to the sector or industry. You will see in the samples a variety of organizational contexts. Here we discuss how these factors may affect a situation.

Structure	An organization may be formal or informal, a branch plant, a single location, or like the film industry, on location. This becomes more complex as the organization ages and goes through various stages of development. For example, a new organization may be informal with everyone hands-on to solve a problem. As the organization grows and matures, jobs become more formalized as do procedures.
Organization	The structure is reflected in how the organization reflects departments, function, virtual or flat structures that can mean an individual works as part of a team, at home or a part of a department where all are performing the same function.
Technology	Many organizations are computerized, networked; some may have automated processes. ISO and quality procedures may drive how work requirements are fulfilled.
People	<p>Who makes up the employees and managers? How long have they worked there? What education, background, and experience do they bring to the organization? Size of the organization has a large impact here. Organizations are generally categorized as:</p> <ul style="list-style-type: none">• Micro: 1-4 employees• Small: 5-99• Medium: 100-499• Large: 500 or more employees <p>Particularly when an organization crosses one of these thresholds, changes need to be made with respect to processes, formalization, training, and structure.</p>
Culture	All of the above factors and the influences of leadership affect organizational culture. Pace, norms, a focus on task or relationship all are aspects of organizational culture. Rituals like Friday pizza or company picnics are descriptors of organizational culture. Changing organizational culture creates its own set of problems.

Instructional Strategies

Adults in the workplace bring all of their experience into the learning situation. Individuals may learn differently requiring that a variety of tools and styles be used to support learning. The guidelines that follow also help increase the chances of success. Success is defined as the ability of the individual to apply the new learning in the job context.

Employees learn most effectively when there are a number of parameters in place:

- The examples used in the training must be directly related to their employment situation. The use of current documents and situations is also important.
- An opportunity to practice in class, as frequently as needed, is essential prior to taking it to the 'shop floor'.
- It is critical to acknowledge the experience of the employees in the course of the training and when possible, involve this knowledge directly into the training.
- The support of the immediate supervisor of the employees who are taking the training is critical.
- A realisation of the other roles of employees as supporting family members or doing volunteer work in their community means that people will be tired, need to take frequent breaks and do not have the time to complete large amounts of homework.
- People are treated in a respectful manner in the course of the delivery of the training. It is critical to ensure that a safe learning environment is created where people can freely ask questions and that mistakes made are not discussed elsewhere.
- The materials used to explain concepts are appropriate for use in an adult learning environment and are not juvenile in nature.

Organizational Readiness for Training

Are you ready for a training solution?

Before you purchase or develop problem-solving curriculum, four key questions need to be addressed. Please (✓) check *Yes* or *No* to each of the following questions.

Yes	No	Question
		1. Have you defined your workplace? Needs assessment is often a way in which to move from symptom to cause of a problem.
		2. If training is not the solution, will you investigate other means to meet employee needs?
		3. Do you have resources available (people, time, money) to support training?
		4. Have you set goals and measures of success for your organization and your employees?

Training Checklist – Return on Training Investment (ROTI)

Once you have decided that problem-solving curriculum is what is needed, there are more detailed considerations before training can be successful. Successful training is defined as the transfer of learning back to the workplace. These questions can also be used as guidelines for the purchase of external training.

1. Is the training learner-centred?
2. Are the learning outcomes clear?
3. In a unionized workplace, is the union part of planning the training?
4. Is the length and timing of the training appropriate for the work schedule and the materials that need to be delivered?
5. Is the cost reasonable?
6. Does the organization have an identified personnel support to the training? e.g. Human Resources, training, operations.
7. Is the facility available for a tour by the trainer?
8. Does company information available such as documents, procedures and performance indicators, to support the organization's existing processes?
9. Is safety incorporated into the training where appropriate?
10. Are job descriptions, occupational profiles, or other job specific information available?
11. Is an assessment process in place for individuals?
12. Are employees supported for the duration of the training (e.g., time off, paid for 50% of their time in training, and if there is mechanism to support application of the training on the job)?
13. Does the immediate supervisor support the training?
14. Is evaluation built into the training?
15. Is the company prepared to support the logistics for the training (e.g., room, materials, copies, etc.)?

In order for training to have maximum value, the majority of the responses need to be 'Yes'.

Measuring Success – Evaluation

Evaluating training is essential to measuring effectiveness. In the workplace, success is generally defined as transfer back to the job. Sometimes factors within the job context prohibit the effective transfer of learning. Other indicators may be completion rates and performance on instructional examples.

Evaluation Strategy	Documentation	Accountability
Completion Rates	Attendance records	Individual
Session activities	Ask for a write up of a sample problem. Ask for a presentation of the sample to the group.	Individual Instructor Feedback is provided to the participant in a confidential, respectful manner.
Transfer of Learning Strategy	This is a defined strategy where prior to the beginning of a course a transfer of learning strategy is put in place. Supervisors are advised, on an on-going basis what is being taught and actively works with the participant to apply this knowledge or skills to the workplace situation.	Allows for individual application. Supervisor can support application. Diminishes organizational barriers to application to the job.
Supervisor's evidence of increased productivity	Either in paper or electronic format	Successful transfer of learning is evidenced by individual performance.

Before the training begins, it is critical to recognize what success looks like and how to measure it.

Problem Solving

There are many approaches to problem solving but each of them breaks the process down into a series of steps. Included here are several models. We suggest you work with the description that most closely resembles your organizational context. For example an existing ISO procedure or Continuous Improvement process most closely resembles the Plan, Do, Check, Act of model 2. Another consideration is whether you are working with an individual or a group. Brainstorming and other creative models are well suited to group activities.

Models and Approaches

All problems start with an event that reveals something is or may be wrong. Models for solving problems are usually based on logic. In more recent years, intuition and emotion have become legitimate considerations. In some circumstances physical or practical intelligence is incorporated, e.g. drawing on prior knowledge and experience, a supervisor can point out to a new employee that for example, “the wall can’t be built like that.”

Models and approaches generally seek to answer the following questions:

- How is the problem identified?
- Who is responsible for solving the problem?
- Why is the problem occurring?
- What are the possible alternatives?
- How does one assess the possible solutions (e.g., risk analysis)?

A decision is then made.

Whether we are calculating math, dealing with a difficult person, or following detailed procedures, all situations require thinking skills. At the entry level this might entail reading each step then doing it. The circumstance might require a demonstration or compare and contrast to a standard.

As the number of situational factors increase and the uncertainty of the cause increases, a problem becomes more complex to solve.

Organizations generally train for problem-solving skills imbedded in the job context. This guide encourages the same approach.

The problem-solving process is used to help workers think about a problem without applying their own pre-conceived ideas or values systems on the solution. In this way, defining what the problem looks like is separated from looking at the cause of the problem. This avoids premature judgment. Similarly, clarifying what makes an acceptable result is defined before the solutions are generated. This helps prevent preconceptions from driving the outcomes.

Problem Solving Models

We have selected five models that illustrate problem-solving approaches for individuals and groups. The step of defining the problem is more difficult than it may appear. Often we mistake the symptom for the problem. For that reason we have also included two problem identification, or root cause, analysis tools. Blank copies of these tools are attached in the appendix for you to copy and use with the sample problems.

The first model, PROACT, illustrates several analysis steps in the process. The second model, PDCA (Plan, Do, Check, Act), most closely resembles a continuous improvement process, a proactive approach to problem solving. Two of the models, Creative Problem Solving and Multicultural Collaboration, are group processes used by the school system. The final model, Appreciative Inquiry, flips problem solving on its head and approaches a situation from a paradigm of what is working well, rather than what is wrong with the situation, then applies the positive to address the ‘problem’.

Rather than use all of the models in any one workplace training activity, we propose that you pick a model that suits the organizational context. If, for example, you are training because organizational changes are underway, the group approaches provided in the Creative Problem Solving and Appreciative Inquiry models may fit your needs. The Multicultural Collaboration model can be most directly applied in diversity situations that require dealing with differences. If the organizational context is highly structured, the PDCA or PROACT models may be more suitable.

In the samples, we have suggested a model to use, but we encourage you to try several approaches. It is important that you, as a trainer, are comfortable using the model. Our references at the end of the guidebook point you to additional support for using the models.

Problem Identification Tools

Two tools are provided as activity worksheets to support the most difficult part of the problem solving process—that of root cause (see Fishbone and Five Why’s worksheets). Each of the models presented includes a step to help the problem solver understand why the problem is occurring. This step might be called definition, perspective, discovery, or analysis. This dimension of causality is the one most frequently overlooked. The assumption is that the symptom is the same as the cause.

The appendix includes Fishbone and Five Why’s Activity sheets that can be copied for use in conjunction with the sample problem.

Problem Identification – Five Why's

The example that follows uses the Japanese technique of 5 Why's to get to root cause. This dimension of causality is the one most frequently overlooked in favour of treating the symptoms.

The 5 Why's typically refers to the practice of asking, five times, why the failure has occurred in order to get to the root cause/causes of the problem. There can be more than one cause to a problem as well. Peter Senge in the Fifth Discipline (1999) includes both the 5 why's and the Fishbone Diagram as tools for change.

In organizations this leads to firefighting chronic issues with no apparent resolution. Often this cycle is perpetuated not because of lack of analysis but due to the pace of work and the lack of resources, either human or financial, and time available to address the root cause. This limitation has no relation to problem-solving skills, but more to organizational priorities.

5 Why's

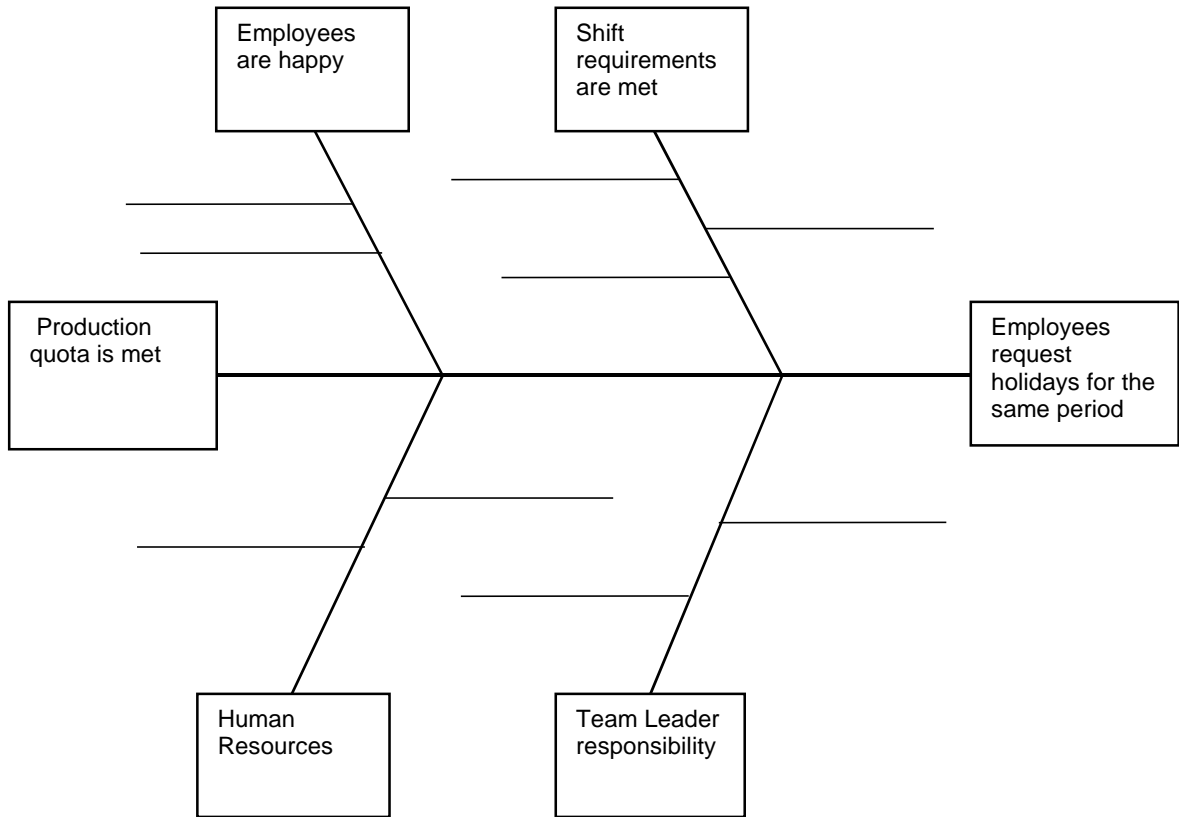
Symptom	Why did this happen?
Didn't complete project on time	Why did this happen?
Resources unavailable when needed	Why did this happen?
Took too long to hire Project Manager	Why did this happen?
Lack of specifics given to Human Resources	Why did this happen?
No formal process for submitting job opening	Root Cause

The example proposes that the learner ask why each symptom is occurring. If you have more than one symptom, we suggest you ask why for each symptom. When the responses begin to overlap, we suggest you have discovered the root cause of the problem.

In a number of situations, discovering root cause may mean the individual affected by the situation may have little influence in solving the problem. When this occurs using the 5 Why's, we encourage you to work with the individual or group to ask, "What can you do?" This could lead to suggestions, raising the situation with a supervisor, or even building a case that draws the impact of the problem to a supervisor or leader's attention.

Fishbone Diagram (Mind Mapping)

Another well-used tool for causal analysis is a mind map of the situation. Both individuals and groups can assess a situation by laying out factors and circumstances as in the example below. A box in the cause-effect diagram represents each factor. The details of the situation are entered on lines out from each spine. The sample is from Scenario 2.



A fishbone can also be called a cause-effect diagram or a mind map. The example identifies the problem on the right. All are situational factors. Each of the spines within a factor is an aspect of that factor. For example, vacation planning is a team leader's responsibility but he/she could also consult Human Resources. A blank of this type of fishbone diagram is included in the appendix for use with the sample problems.

Either the Fishbone or the 5 Why's can be used to help identify root cause. The critical step is to ensure one is addressing the right problem.

Problem Solving Model 1 – The PROACT Model

Sometimes an individual employee cannot solve the problem alone. This is a situation where employees utilize other essential skills—asking questions, writing memos or notes, speaking with a supervisor or technical expert to explain the symptoms. In some situations, the employee is also involved in suggesting solutions. Problem-solving skills are built on the foundation of other essential skills. A model that demonstrates this is PROACT described in *Smart Choices* by John Hammond, Ralph Keeney, and Howard Raiffa (1999). It includes a step for objectives, i.e. what does the situation look like when the problem is solved? Sometimes the absence of the problem is the solution; in other cases the cause may be apparently unrelated to the solution.

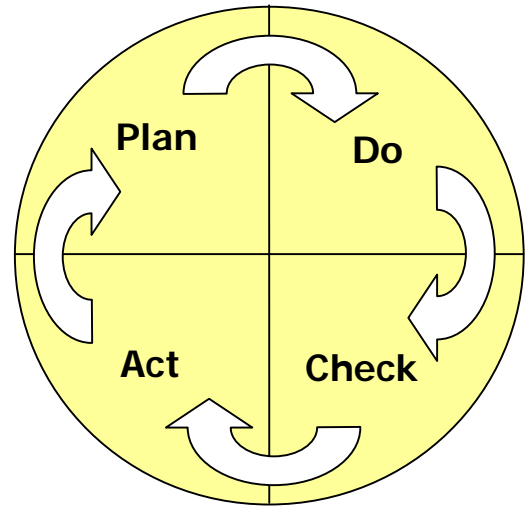
The “PROACT” Model

PR	Problem	Define the problem. What are the symptoms? How big is the problem? Who is involved? How much is it costing us to have the problem? Which areas of the organization are affected? Why is resolving the problem important? What are its effects of the problem? What information do you need to gather? How will I analyze the problem? What are some possible causes? What is the root cause?
O	Objectives	Specify your objectives. What will it look like when the problem is solved? What do you want to accomplish?
A	Alternatives	Imagine the alternatives. Your decision is no better than your best alternative. What can I do to address the problem? What are at least three viable alternatives Does this alternative address the root cause? How do I evaluate the alternatives? What are the costs/benefits of each alternative?
C	Consequences	Consider the consequences. How well do your alternatives satisfy your objectives?
T	Tradeoffs	Set priorities to strike a balance between competing objectives. What are organizational priorities in the situation? Which criteria are most important? What may be lost by my chosen alternative?

PROACT not only asks for what the solution is seeking to accomplish but also breaks down analysing the possible solutions using criteria and assesses consequences of each possible solution.

Problem Solving Model 2 – PDCA

This model is a process used to support continuous improvement. Rather than solving a problem after it has occurred, the PDCA (Plan, Do, Check, Act) model as presented by Robbins and Langton (2003). This model anticipates how a situation can be improved. It is a proactive model as well and is generally part of an individual's job responsibility where a continuous improvement process is already in place.



Quality Management

Quality management and continuous improvement programs primarily use a Plan, Do, Check, Act approach.

ISO has led to established procedures in many workplaces. The first step in problem solving is matching the procedure to the situation. This can be an effective model in structured environments with a limited set of factors. These limitations are one of the factors in the complexity level rating system in the Essential Skills methodology.

- P** **Plan** the improvement and continued data collection
- D** **Do** the improvement
- C** **Check** and study the result
- A** **Act** to hold the gains, continue improvement

Individual vs. Group Problem Solving and Decision Making

Most job organization is individual despite the emphasis on teams in the workplace. Accountability for job performance is individual. There are also advantages to involving others in problem solving where an individual cannot solve the problem. Studies have shown that individuals are faster, but that groups can come up with more possible solutions and analyse those solutions more effectively, if slower, than individuals. Again, context is important. One aspect of organizational context is a sense of urgency.

The remaining three problem-solving models are best used as group problem-solving approaches, particularly when there is a need for creativity and numerous stakeholders in the circumstances.

Problem Solving Model 3 – Creative Problem Solving

Creative Problem Solving uses the same basic focus, but the process is less geared towards solutions and more towards a focus on brainstorming. The Saskatoon Public School Division (2006) used this model to focus on creating ideas rather than solving a clear, existing problem. Sometimes the problem is pre-defined, and the group must focus on understanding the definition rather than creating it.

Orientation	Similar to defining the problem, orientation also focuses on being sure the group is prepared to work together. The group might take the time to agree upon behaviours or ways of saying things, in addition to setting the context and symptoms of the issues. The group generates a series of headings that group the topics they must address.
Preparation and Analysis	Decide which headings are relevant or irrelevant. The group focuses on similarities and differences between ideas and works on grouping them into like categories. The group asks how and why a lot and focuses on the root cause of the problem, in a way that is similar to analyzing the problem.
Brainstorm	The group generates as many potential solutions as possible. At this point, all ideas are considered to be good ones.
Incubation	Before deciding which solution is the best, the group should leave the problem for as much time as reasonable. Often several days or a week is ideal depending on the participants. Leave enough time to develop distance, but not long enough for participants to lose the gist of their earlier work.
Synthesis and Verification	Start by establishing the criteria for a good solution, then look at all the brainstormed solutions, and try to combine them to create the solution with the greatest numbers of positives and the smallest numbers of negatives.

Problem Solving Model 4 – Multicultural Collaboration

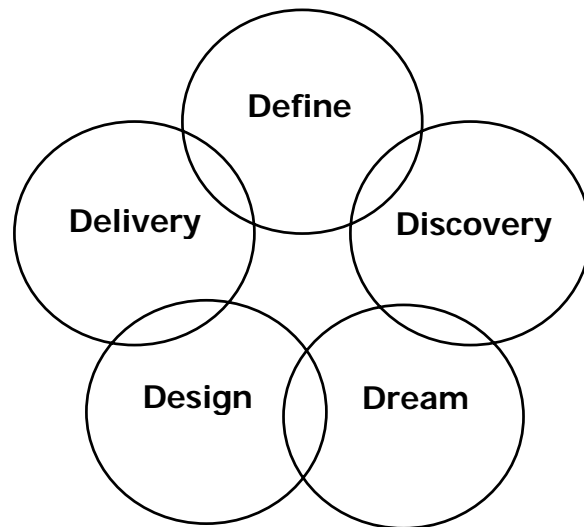
P.C. Gorski (n.d.) introduced a 6-step model in multicultural case studies. The purpose of this model is to facilitate an organized process for examining, understanding, and responding to complex issues. For best results, it is crucial to assemble a diverse team of stakeholders to work through this process.

Problem Identification	Identify or name the situation and relevant related issues. What is the problem? What is the source of the problem?
Perspectives	Create a list of every person, group, and organization impacted by the problem. How is each of these affected by the situation? Be sure to include anyone who is affected by the situation directly or indirectly. It may be necessary to make some assumptions for this step, intensifying the importance of incorporating as many voices and perspectives as possible into the process of compiling the information.
Challenges and Opportunities	With the varied perspectives in mind, what are the individual and organizational challenges and constraints within which the situation must be addressed? What are the challenges based on the individuals directly involved, and what organizational constraints must inform an approach for addressing the situation? What are the educational and growth opportunities presented by the situation, both for the people directly involved and the organization?
Strategies	Brainstorm approaches for addressing the situation, attempting to maximize the extent to which the negative outcomes of the situation are addressed while simultaneously maximizing the extent to which you take advantage of opportunities. Keep in mind the varied perspectives and the fact that any solution will affect everyone differently. This is not the step at which to challenge and critique each other's ideas. Record every idea, no matter how unreasonable it may sound to individuals in the group.
Solutions	Focus your strategies into a formal plan of action. Keep in mind the varied perspectives as well as the challenges and opportunities. Be sure to come up with at least two or three specific responses, whether they focus on the individual or the underlying issues at an organizational level.
Expected Outcomes	Name the outcomes you foresee as a result of the solutions you identified. Revisit the perspectives step to ensure a standard of equity and fairness.

Problem Solving Model 5 – Appreciative Inquiry

Appreciative Inquiry (AI) is an approach to organizational change developed by David Cooperrider, management faculty at Case Western Reserve University. The method combines both the question and the positive as fundamentals to a new paradigm for ‘problem solving’ based not on what’s wrong but on what’s working well and building from a positive core to design and deliver strategies that accomplish organizational objectives. This process model is call the 5-D cycle.

- Define** What is the nature of the inquiry?
- Discovery** What is the best of our experience with this question?
- Dream** What are the possibilities for how the situation will look when solved?
- Design** How does the system address the possibilities with tangible measures?
- Delivery** What are the requests, offers and commitments each person in the system can do to implement our design?



Introduction to Sample Problems

Fifteen sample problems each describe a scenario and organizational context, suggest activities that incorporate Authentic Workplace Materials (AWM) and propose one or more tools and models from the Problem Solving section. We suggest you copy the sample problem, one of the models, and use the activity worksheet to make a complete problem-solving activity. The samples can be used alone and can also be integrated into other workplace training, particularly essential skills training.

The situations described represent actual situations. They have been made generic for broader application and to protect proprietary material. In cases where the documentation has been made public we have included these in the appendix. You may wish to adapt this information when you do not have workplace specific materials.

Each sample problem includes:

Complexity Rating	Each scenario is labelled Level 1, 2, or 3 based on the complexity dimensions identified in the graph on page 5.
Scenario	A brief description of the situation and organizational context is provided from which the learner seeks a cause and a solution.
Activity	Suggestions for how to use the sample are presented.
Employer Tips	Suggested Authentic Workplace Materials are provided as well as possible alternative uses of the scenario.
Situational Factors to Consider	Key questions are provided to assist the learner to identify cause, possible solutions, and criteria for selecting an appropriate, if not the best, solution.
Problem Solving Model	One sample of each model is provided. It is important to recognize that problem-solving processes need to work well for the learner. If the model suggested does not facilitate learning, encourage the participant to choose the best approach for them. A step-by-step worksheet is provided. The learner can utilize the best model for them and insert the necessary steps into the worksheet.

All problem-solving processes seek to answer four key questions:

1. What is the problem?
2. Why is the problem occurring?
3. How can the problem be solved?
4. How does one assess the best solution?

Sample 1 –

Loss Prevention – Retail

Scenario – Level 1

A cashier notices a bulge under a customer's coat. His/her responsibilities include loss-prevention techniques. Is the customer shoplifting? The store is located in a rural area and has 50 or fewer employees.

Activity

- ✓ Ask the participant to pretend that he/she is the cashier in the above scenario.
- ✓ Request that the participant identify the steps to be taken to identify the problem.
- ✓ Encourage the participant to follow one of the problem solving models to get the problem solved!

Employer Tips

- ✓ **Authentic Workplace Materials** – a copy of your organization's loss prevention procedures.
- ✓ This example can be used in any customer-service or loss-prevention setting. It can also be integrated into communications and/or conflict resolution training.
- ✓ If you do not work in a retail setting, adapt the scenario to a production employee who notices a co-worker placing a product in a questionable location.

Situational Factors to Consider

- ✓ How should the cashier approach the customer?
- ✓ Does the cashier alert the supervisor instead?
- ✓ What if the customer becomes aggressive?
- ✓ What is the procedure for handling a customer who is shoplifting?

Problem Solving Model

All problem solving processes seek to answer four key questions:

1. What is the problem?
2. Why is the problem occurring?
3. How can the problem be solved?
4. How does one assess the best solution?

The PROACT model can easily be applied. See Scenario #1 in the Appendix.

Sample 2 –

Scheduling – Manufacturing

Scenario – Level 1

A number of employees want time off in summer, many of them so they can spend time with family. Not all of them have accrued vacation time and only 5%, or three people, from the department can be away at one time. The team leader is responsible for vacation planning in this large manufacturer with over 1,000 employees.

Activity

- ✓ Ask the participant to role play the above scenario. Each participant should play the team leader, the employee and an observer. Do the activity three times.
- ✓ Encourage the participants to follow one of the problem-solving models to get the problem solved!

Employer Tips

- ✓ **Authentic Workplace Materials** – shift schedules, vacation planner, and human resources holiday request forms.
- ✓ Managing people often creates a new level of complexity to a situation. Change the scenario to suit your organizational context.
- ✓ This activity can be done when training a group of team leaders, because it is a common situation.
- ✓ This sample can be used with supervisors who schedule, as well as with Human Resources personnel who support supervisors.
- ✓ This is a good example to use with group decision-making.

Situational Factors to Consider

- ✓ How can the team leader ensure both employee and organizational needs are met?
- ✓ Does the team leader involve Human Resources in the resolution of the problem?
- ✓ What happens if some employees are unhappy with the result?

Problem Solving Model

All problem solving processes seek to answer four key questions:

1. What is the problem?
2. Why is the problem occurring?
3. How can the problem be solved?
4. How does one assess the best solution?

This scenario can be easily used with the PROACT model as in Scenario #1.

Solution

The team leader calls a meeting to indicate the number of people required on each shift. He/she instructs those who want summer holidays to come to the team leader with a schedule that meets the requirement.

Sample 3 –

Drug Interactions – Pharmacy

Scenario – Level 2

The message on the answering machine from Dr. Mohammed’s office is as follows:
Mr. Said, Zithromax for URI, regular dose, 10 days duration. Mr. Said has an ongoing problem with heartburn and regularly buys antacids (with aluminium and magnesium). The antibiotic cannot be taken with antacids. Mr. Said is slightly deaf. The drugstore is one of a chain of pharmacies.

Activity

- ✓ Ask the participants to role-play the above scenario. Each participant should play the pharmacist, the patient, and an observer. Do the activity three times.
- ✓ Encourage the participants to follow one of the problem-solving models to get the problem solved!

Employer Tips

- ✓ **Authentic Workplace Materials** – sample prescriptions, contraindications, and an antacid box can be used as AWM.
- ✓ Dealing with differences is a common workplace situation.
- ✓ This activity can also be done when training a group of professionals in a service setting, because it is a common situation.
- ✓ In a different organizational context, participants can still relate to the situation.
- ✓ This situation may be used in other contexts where language and hearing barriers are exhibited.

Situational Factors to Consider

- ✓ Does the patient understand the possible interaction between the prescription and antacids?
- ✓ What are the requirements for the medication?
- ✓ If the patient is hearing impaired how can the instructions best be provided?

Problem Solving Model

All problem solving processes seek to answer four key questions:

1. What is the problem?
2. Why is the problem occurring?
3. How can the problem be solved?
4. What is the best solution?

Thinking from each perspective in the situation, the multicultural collaboration model can assist learners to solve a problem. The role-play activity supports this approach. See the Appendix for Scenario #3.

Sample 4 –

Teacher's Aide – School

Scenario – Level 2

In a grade one class in a school in a large urban school division there was a minor incident during recess. A boy, aged 6, was playing with a female classmate. By accident, he broke the string on her winter gloves. Both children were upset, and the boy wanted to bring the gloves to his home to have them repaired.

Activity

- ✓ Ask the participant to brainstorm a solution that meets the needs of the child, parents, and the school.
- ✓ Draw a line down the centre of a page. Ask the learner to identify the needs of the child on the left and the needs of the school and the parents on the right.

Employer Tips

- ✓ **Authentic Workplace Materials** – school policy and procedures, parent information forms, and incident reports.
- ✓ The school has procedures for informing parents. At the same time the child's wishes need to be respected.
- ✓ This situation can also be applied to adults. Employers want individuals to take responsibility for their own actions. Once the presenting problem has been addressed, ask participants to compare the situation to the workplace.

Problem Solving Model

All problem solving processes seek to answer four key questions:

1. What is the problem?
2. Why is the problem occurring?
3. How can the problem be solved?
4. What is the best solution?

This situation lends itself to the Creative Problem Solving process that utilizes brainstorming as a key feature. See Scenario #4 in the Appendix.

Sample 5 –

Reading Specifications – Manufacturing

Scenario – Level 1

A production worker is employed in a large manufacturing facility with over 300 work stations for one product and 500 employees. The worker is required to read blueprints or specifications in order to complete his/her part of the production process. When the part arrives, visual inspection reveals that some drilled holes are questionable. The placement and size must be within tolerances.

Activity

- ✓ Ask the participant to pretend to be the worker in the situation.
- ✓ Draw a line down the centre of the page. Insert arrows on either side facing each other.
- ✓ On the left ask the participant to list possible solutions; on the right identify the consequences to the employee and to the company for each possible solution.

Employer Tips

- ✓ **Authentic Workplace Materials** – ISO procedures, blueprints, instructions for error reports, and forms. An ethics policy or code of conduct can also assist the situation.
- ✓ Often workers know each other and may not want to identify errors coming from another installation.
- ✓ The impact in cost and productivity of passing a defective part needs to be understood by employees. This may require additional training and/or information.

Situational Factors to Consider

- ✓ Inspection is part of each worker's responsibility.
- ✓ ISO procedures include reporting defects and the necessary documentation.
- ✓ What is the role of the supervisor?
- ✓ What is the consequence to the employee of not reporting a defect?

Problem Solving Model

The PDCA model is commonly used in continuous improvement situations. See Scenario #5 in the Appendix.

Sample 6 –

Time Sheet – Heavy Equipment Operator

Scenario – Level 1

A recently trained, heavy-equipment operator has just been hired. The supervisor provides the new employee with a daily timesheet to be completed. The employer is a large construction company; however, on the job site there are less than 20 employees including the supervisor. A sample timesheet is included in the appendix as a sample.

Activity

- ✓ Ask the learner to assign times to each type of activity they do in a work shift. The skill involves understanding the categories used to track activity.
- ✓ Request the participant to add the categories to equal the time spent on the job.

Employer Tips

- ✓ Use the time sheet sample for new employees, or other documents where reading text and numeracy skills are required.
- ✓ Usually someone on the job, a peer or supervisor, will explain.
- ✓ Depending on the size of the organization, this may be part of employee orientation.

Situational Factors to Consider

- ✓ How does the employee record hours and minutes?
- ✓ How are breaks and lunch considered?
- ✓ What if the timesheet does not add up to time spent on the site?

Problem Solving Model

Use the basic problem solving process:

1. What is occurring that makes you think there is a problem?
2. What are my responsibilities to solve the problem?
3. What are the alternatives?
4. How do I select the best solution?

Sample 7 –

Allocation of Work – Claims Processing

Scenario – Level 2

In a claims-processing environment, files are assigned via a queue. A team manager reviews performance statistics on a weekly basis to track the number of files completed. The team manager notices one individual whose tracking report shows an increase in aged files. The organization is a large service provider with over 500 employees and has defined targets for the number of days in which a file is to be completed. Files range greatly in complexity. A resource person is available to the team to provide support to deal with the complexities.

Activity

- ✓ Ask the manager to use the problem-solving model to prepare for a meeting with the employee, then repeat the model with the employee involved.
- ✓ Ask the manager to utilize a report and procedures in the review process with the employee as well.
- ✓ Ask the participants to role play the manager, the employee and an observer
- ✓ Suggest the manager describe the problem solving process used to the employee and review with the employee the steps in the problem solving process

Employer Tips

- ✓ **Authentic Workplace Materials** – computerized tracking reports, file management and data processing, procedures manual.
- ✓ Coaching an employee to assess how to meet performance targets requires consistency and follow-up.
- ✓ This problem suggests teaching the problem solving process to the employee as a way to resolve the employee's workload.

Situational Factors to Consider

- ✓ Targets are to be met weekly.
- ✓ A first review may identify complex files.
- ✓ A resource person is available to answer questions.
- ✓ Is the program newly introduced?
- ✓ Are new procedures in place?

Problem Solving Model

Use the basic problem solving process:

1. What is occurring that makes you think there is a problem?
2. What are my responsibilities to solve the problem?
3. What are the alternatives?
4. How do I select the best solution?

Using the PROACT model can support the employee to see consequences to not processing files. See Scenario #1 in the Appendix.

Sample 8 –

Cultural Differences – Retail

Scenario – Level 2

A new store manager has been trained and relocated to a small, isolated community. In the first week he observes that most of the employees spend a lot of time conversing with customers and appear to be slow to complete assigned tasks. The manager is a new Canadian from South Asia. The majority of the employees are Aboriginal.

Activity

- ✓ Ask the participants to identify the perspectives in the situation.
- ✓ Ask the learner to identify the characteristics for each stakeholder using a spine in the fishbone diagram for each stakeholder group.
- ✓ A key feature of the problem-solving process is identifying assumptions. The assumptions can be based on individual experience, background, and organizational or ethnic culture. Ask the participant to identify the assumptions in the situation.

Employer Tips

- ✓ **Authentic Workplace Materials** – store procedures manual, time management outcomes in performance management expectations, interpersonal skills competencies, respectful workplace policy.
- ✓ This situation can be used to develop a process solution in which the new manager engages the employees in a dialogue about the various assumptions.
- ✓ This activity might be part of diversity training. Dealing with differences is part of Canadian life. We expect people to be like us in attitudes, values and experiences even when it is obvious that is not the case. This sample can be used in a variety of circumstances to address differing expectations in a respectful way.

Situational Factors to Consider

- ✓ What are the manager's expectations of the employee?
- ✓ How does the employee know what those expectations are?
- ✓ How do relations between customers and employee affect interactions?
- ✓ What are the consequences of the slower pace?

Problem Solving Model

Use the basic problem solving process:

1. What is occurring that makes you think there is a problem?
2. What are my responsibilities to solve the problem?
3. What are the alternatives?
4. How do I select the best solution?

The multicultural collaboration is a model that asks the participant to identify different perspectives. See Scenario #3 in the Appendix.

Sample 9 –

Material Inspection – Aerospace

Scenario – Level 1

Aircraft assemblers are responsible for recording information about the adhesive materials used during the assembly process. Some materials are only safe to use for a limited time. Assemblers are required to complete the material inspection record. A new adhesive has been introduced, but the material inspection record does not reflect new procedures. Aircraft companies are generally large with over 500 employees in a highly regulated environment. Inspections are completed at each stage in the process.

Activity

- ✓ Ask the participants to compare the information on the new adhesive product, in order to identify information that is different than the existing adhesive.
- ✓ Use a compare and contrast exercise to illustrate a problem solving process with two solutions—the old way and the new way.
- ✓ Use the existing material inspection record to identify the place for adhesives.

Employer Tips

- ✓ **Authentic Workplace Materials** – material inspection record, MSDS sheets, ISO procedures, possibly computer instructions at the closest workstation, WHMIS training, materials from training.
- ✓ The key questions become: Whose job is it to change the material inspection record? What does the individual assembler do until the new record is in place?

Situational Factors to Consider

- ✓ Is the product or procedure new?
- ✓ Whose responsibility is it to produce new written procedures?
- ✓ How are safety precautions built into procedures and training?
- ✓ What is the procedure if the time limit has expired?

Problem Solving Model

Use the basic problem solving process:

1. What is occurring that makes you think there is a problem?
2. What are my responsibilities to solve the problem?
3. What are the alternatives?
4. How do I select the best solution?

PDCA is appropriate in this scenario. See Scenario #5 in the Appendix.

Sample 10 –

Safety Hazards – Film Production

Scenario – Level 1

A new member of a film production crew trips over an electrical cable and falls. While the person appears to have minor abrasions, an incidence report is required. Each crew in production can range from 50 – 100 people. Employees are contract for a number of weeks. They receive entry-level training after which instructions are primarily verbal.

Activity

- ✓ Ask the learner to identify the process and regulations that apply to the worker and the supervisor in the sample.
- ✓ The employer is required to provide a safe work environment. Workplace Health and Safety regulations are in place and vary by industry. Use the applicable regulations.
- ✓ Once the procedures are identified, ask the learner to complete the incident report.

Employer Tips

- ✓ **Authentic Workplace Materials** – incident report, health and safety procedures.
- ✓ The specific regulations vary by province and by industry and may require timely response and particular procedures for reporting incidents.
- ✓ Use the applicable health and safety regulations for your workplace. Forms can be downloaded from the provincial Workplace Safety and Health website.

Situational Factors to Consider

- ✓ Was the hazard unmarked?
- ✓ Has the employee had safety training?
- ✓ Has the supervisor been trained in reporting procedures?
- ✓ Are forms available on site?
- ✓ What is the timeframe for reporting?

Problem Solving Model

Use the basic problem solving process:

1. What is occurring that makes you think there is a problem?
2. What are my responsibilities to solve the problem?
3. What are the alternatives?
4. How do I select the best solution?

Workplace Safety and Health regulations generally come with a set of instructions for how to document cases and what to do in various situations.

Sample 11 –

Harassment – Union Environment

Scenario – Level 2

A large unionized manufacturer has grown and is seeking new employees from designated groups. A harassment policy is in place. Recently several women joined the department as employees, in what used to be an all-male department. The shop steward notices the supervisor and some of the other workers are especially tough on them when inspecting their work.

Activity

- ✓ Ask the shop steward or supervisor to list his/her responsibilities to create a safe work environment.
- ✓ On a worksheet divided down the middle, ask participants to outline the responsibilities of the supervisor and the shop steward.

Employer Tips

- ✓ **Authentic Workplace Materials** – harassment procedures, collective agreement, shop steward training.
- ✓ The union generally provides its own training.
- ✓ Depending on the labour relations environment, the shop steward can be a critical factor in maintaining employee relations.
- ✓ The union is also expected to deal with its own members; the employer's responsibility is with the supervisor who may be outside the bargaining unit.

Situational Factors to Consider

- ✓ Role of shop steward.
- ✓ Management's right to manage.
- ✓ Is an anti-harassment policy in place?
- ✓ Have employees and supervisors been trained?
- ✓ Is harassment covered in the collective agreement?
- ✓ New employees are not generally covered by the collective agreement until after a probationary period.

Problem Solving Model

Use the basic problem solving process:

1. What is occurring that makes you think there is a problem?
2. What are my responsibilities to solve the problem?
3. What are the alternatives?
4. How do I select the best solution?

See Scenario #5 - PROACT model in the Appendix.

Sample 12 –

Cost Control – Health Care

Scenario – Level 3

The linen manager in a 150-bed personal care home reports a significant increase in purchases for face cloths. At a managers meeting, the CEO assigns the manager the task of bringing costs in line. The linen manager and her staff are all visible minority women.

Linens are allocated six days per week to each ward where 10 extra sets are placed. Linens always run out before Monday morning and in particular face cloths. Linen delivery staff notices nursing staff using face cloths for other purposes; sometimes throwing them away. No records of use are kept on the ward. Linens are counted as they come out of the laundry.

Activity

- ✓ Ask participants to use the 5 Why's. The situation has more than one problem that needs to be identified.
- ✓ Is the problem about face cloths?
- ✓ Have participants develop a process for dealing with not only cultural differences but also perceived differences in the value of an occupation, e.g. a nurse vs. laundry staff.

Employer Tips

- ✓ **Authentic Workplace Materials** – laundry tracking in linen supply, budget, and cost reports
- ✓ Sometimes solutions that require cooperation depend on leadership.

Situational Factors to Consider

- ✓ Loss tracking systems
- ✓ Six day cycle
- ✓ Demographics of linen and nursing staff
- ✓ CEO support
- ✓ Managers are members of same management team

Problem Solving Model

Use the basic problem solving process:

1. What is occurring that makes you think there is a problem?
2. What are my responsibilities to solve the problem?
3. What are the alternatives?
4. How do I select the best solution?

The multicultural collaboration model is especially effective here because it focuses on identifying each stakeholder's perspective. See Scenario #3 in the Appendix.

Sample 13 –

Occurrence Reports – Security

Scenario – Level 2

A security officer is required to patrol the office building once an hour after closing. Sometimes individuals in the tenant offices stay late. On rounds, the officer noticed a light on and door unlocked. When the security officer checked there was no response from the tenant. The officer is required to document all occurrences. The security firm has 1,200 employees but officers generally work singly or in pairs on a job site.

Activity

- ✓ Ask the participants to identify assumptions in the scenario.
- ✓ Use the fishbone diagram to identify possible causes and resulting procedures.
- ✓ Group participants in pairs; have them write a sample occurrence report for each cause.

Employer Tips

- ✓ **Authentic Workplace Materials** – occurrence report, protocol for calling in problems.
- ✓ Other procedures such as medical emergency, intruder alerts, etc., may also be used.
- ✓ This sample can be fun depending on how scary people like to make the scenario. It can be as innocent as a visit to the bathroom or as scary as a medical emergency or an intruder.

Situational Factors to Consider

- ✓ The seriousness of the situation will depend on what happened to the tenant.
- ✓ Does the officer call in to dispatch?
- ✓ Does the officer call the legal tenant?
- ✓ Does the officer report the incident to the police?
- ✓ Is the situation a medical emergency?

Problem Solving Model

Use the basic problem solving process:

1. What is occurring that makes you think there is a problem?
2. What are my responsibilities to solve the problem?
3. What are the alternatives?
4. How do I select the best solution?

See Scenario #1 for the PROACT model in the Appendix.

Sample 14 –

Central Purchasing – Manufacturing

Scenario – Level 3

A recently appointed vice president was put in charge of purchasing for a large manufacturing company. Historically, the company operated in a highly decentralized fashion. Each of the purchasing executives does the purchasing for his/her plant with little or no coordination or standardized procedure. The position was created when the company was facing increasing difficulty in securing essential raw material. A procedure must be established which will minimize the likelihood of serious shortages and, secondly, achieve the economics associated with the added power of centralized purchasing.

Activity

- ✓ Ask the participants to brainstorm the issues in the scenario.
- ✓ Ask participants to brainstorm strategies for each of the issues.
- ✓ Use this sample when you want to illustrate there may be more than one problem in a situation.
- ✓ The presenting issue is a procedure for centralizing purchasing.
- ✓ Another issue is how to deal with purchasers who are used to acting independently.

Employer Tips

- ✓ **Authentic Workplace Materials** – purchasing prices, orders, reports, vendor agreements, purchase orders, costs and budgets, supply issues described by production in delays and costs.
- ✓ Group processes are learned through observation and participation. Organizations may want to create a culture of cooperation.
- ✓ Establish and practice group processes that mirror the culture you want to create.

Situational Factors to Consider

- ✓ What is the current procedure for purchasing? Is it different in each location?
- ✓ How does the new manager introduce him/herself to the purchasers?
- ✓ Does each purchaser know the impact of the individualized purchasing?
- ✓ Does each purchaser know the risks of not procuring the essential raw material?

Problem Solving Model

The basic problem solving process is four steps:

1. What is occurring that makes you think there is a problem?
2. What are my responsibilities to solve the problem?
3. What are the alternatives?
4. How do I select the best solution?

A process like Appreciative Inquiry can be used to design ways in which to involve purchasers in a new procedure as well as begin to work together more frequently to realize efficiencies. See Scenario #14 in the Appendix.

Sample 15 –

New Work System – Manufacturing

Scenario

An electronics manufacturer has been searching for ways of increasing efficiency. They have recently installed new machines and put in a new, simplified work system. The expected increase in productivity was not realized. In fact, production has begun to drop. Quality has fallen off and the number of employees leaving has risen.

The manager does not believe that there is anything wrong with the machines. Reports from other companies who are using them confirm this opinion. Representatives from the firm that built the machines report that they are operating at peak efficiency. Some parts of the new work system may be responsible for the change, but this view is not widely shared by either the supply manager or the immediate subordinates, who are four first-line supervisors, each in charge of a section.

The drop in production has been attributed to poor training of the operators, lack of an adequate system of financial incentives, and poor morale. Clearly this is an issue about which there is considerable depth of feeling within individuals and potential disagreement between the manager and subordinates. None of the group knows the real cause of the productivity drop. The division manager received the production figures for the last six months and called to indicate that within a week steps must be taken to rectify the situation.

Activity

- ✓ Ask the participant managers to identify where problem solving ends and decision-making begins.
- ✓ Brainstorm situations where group decision-making is an appropriate process.
- ✓ Ask participants to identify ways in which the manager can ‘sell’ his solution to his subordinates or create an opportunity to demonstrate whether or not his solution will work.

Employer Tips

- ✓ **Authentic Workplace Materials** – machine specifications, productivity reports, incident reports, workflow designs, reports
- ✓ In this sample, forcing the manager’s approach may be accurate, but unsuccessful for implementation with subordinates’ disagreement.
- ✓ Evidence such as reports may not be sufficient to convince others the problem is in the workflow.

Situational Factors to Consider

- ✓ Lack of training
- ✓ Lack of incentives
- ✓ Test possible alternatives
- ✓ Engage subordinates in problem solving

Problem Solving Model

The basic problem solving process is four steps:

1. What is occurring that makes you think there is a problem?
2. What are my responsibilities to solve the problem?
3. What are the alternatives?
4. How do I select the best solution?

See Scenario #1 in the Appendix for the PROACT model. Analysing the problem can be supported by either of the 5 Why's or the fishbone diagram tools.

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Appendices:

Problem Solving Models – Sample Applications

Scenario 1 – PROACT

The problem solving models all use a similar process. This scenario demonstrates the PROACT model:

1. **Define the Problem:**
The customer has a bulge under his/her coat.
2. **Set Objectives:**
Loss prevention is a store policy and part of the cashier's responsibilities
3. **Imagine the Alternatives:**
 - a. Cashier approaches customer
 - b. Cashier alerts supervisor
 - c. Cashier ignores situation – customer leaves
4. **Consider the Consequences:**
 - a. Customer gets aggressive with cashier
 - b. Cashier does not fulfill responsibilities and loses job
 - c. Supervisor approaches customer, then asks cashier why he/she did not fulfill responsibilities
5. **Grapple with Tradeoffs – Set Priorities:**
 - a. Keep the job
 - b. Request assertiveness training

Scenario 3 – Multicultural Collaboration Model

1. **Problem Identification:**
The pharmacist notices the patient buying antacids. The new prescription does not work with in conjunction with the ingredients present in most over the counter antacids. The situation is complicated by Mr. Said's hearing impairment.
2. **Perspectives:**
How is Mr. Said affected by the situation? What are the pharmacist's responsibilities to ensure the patient is informed?
3. **Challenges and Opportunities:**
How can the pharmacist explain the drug interaction to Mr. Said? What opportunities for visual aids can support understanding?
4. **Strategies:**
Brainstorm ways to get the message across.

5. **Solutions:**
Identify the risks if Mr. Said takes the prescription with an antacid.
6. **Expected Outcomes:**
What are the possibilities if Mr. Said follows instructions and what he will notice if he does not?

Scenario 4 – Creative Problem Solving

Use the same basic process with a focus on creating ideas.

1. **Orientation:**
How can the school, parents and children work together to solve the problem?
2. **Preparation and Analysis:**
How can the aide respect the child’s right to solve his own problem?
3. **Brainstorm:**
The teacher’s aide may generate as many ideas as possible with the children first. The aide may brainstorm with the teacher or other administrator and the parents. Ideas are to be proposed without evaluation.
4. **Incubation:**
“Sleep on it” may be a suggestion to give the teacher time to speak with the parents.
5. **Synthesis and Verification:**
The solution may be provided by anyone involved in the situation. This step requires that all parties including the children are consulted before a solution is final.

Scenario 5 – Reading Specifications – PDCA Model

1. **Plan:**
Ask the employee in the previous work station about the tolerances.
 - a. Plan a strategy to identify parts outside tolerance
 - b. Identify a process with the previous work station employee to fit in the part for redrilling
 - c. Target a number of parts for rework that reaches the desired number of defect free parts
2. **Do:**
Practice the notification of the previous work station when a part outside tolerances appears; review the agreed upon process.
3. **Check:**
Report to the previous work station on the review process; train the employee on the tolerances.
4. **Act:** Report progress or not to the supervisor or lead hand in the department.

Scenario 14 – Central Purchasing – Appreciative Inquiry

1. **Discovery:**
The new manager interviews each purchaser in every location to find out what works well in purchasing procedures.
2. **Dream:**
The new manager holds a conference call where each purchaser contributes to statements of what the best purchasing policies can be.
3. **Design:**
Each manager contributes ideas to how procurement and shipping can take place effectively and efficiently.
4. **Deliver:**
The new manager goes to the next manager's meeting with the new policy and procedures and indicates how each manager is implementing the new policy.

Worksheets

Fishbone Diagram (Mind Mapping)

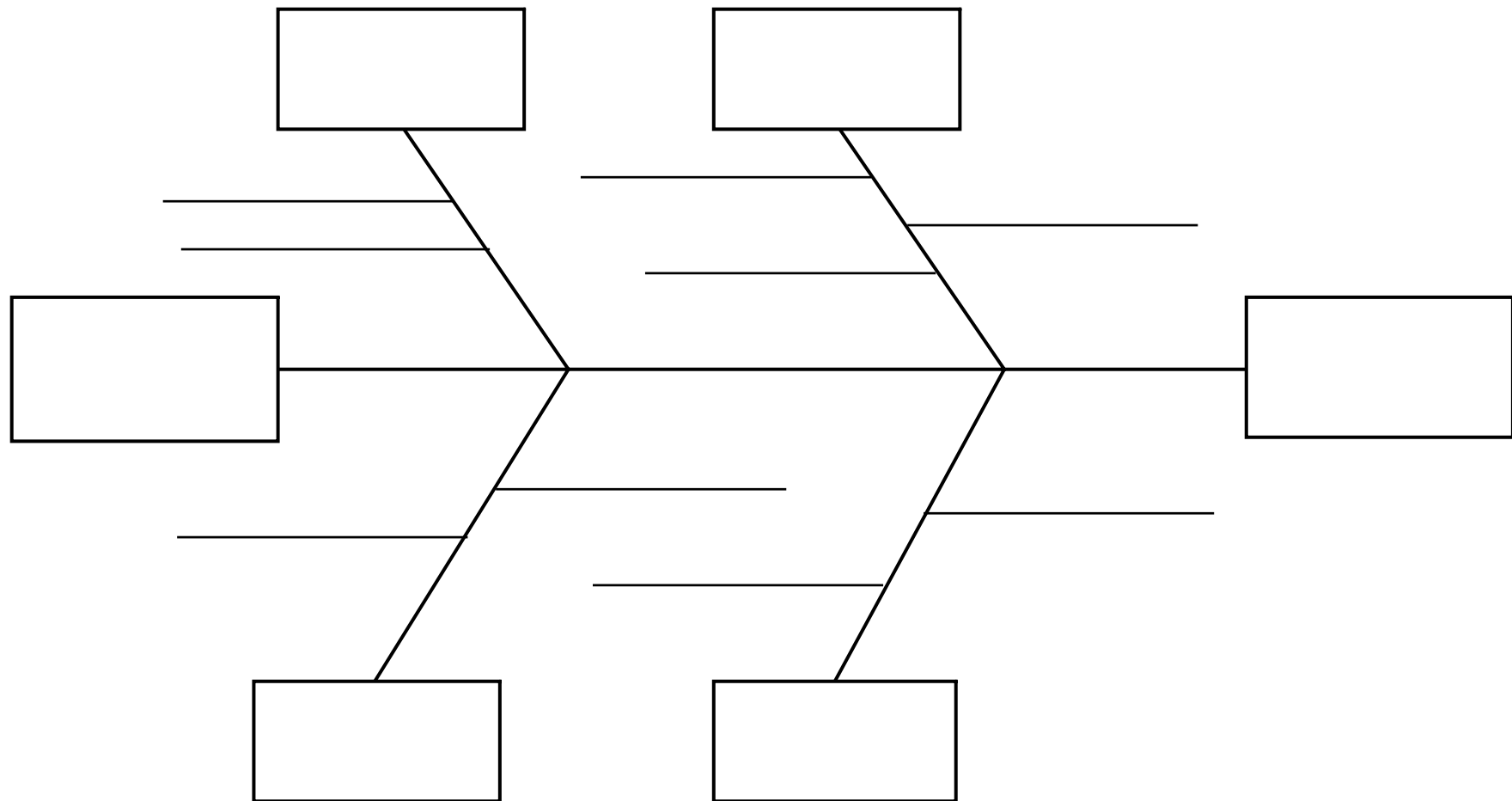
Five Why's

Problem Solving Template



Fishbone Diagram (Mind Mapping)

Both individuals and groups can assess a situation by laying out factors and circumstances in the diagram below. A box in the cause-effect diagram represents each factor. The details of the situation are lines out from each spine.



Five Why's

The Five Why's typically refers to the practice of asking, five times, why the failure has occurred in order to get to the root cause/causes of the problem. There can be more than one cause to a problem as well. In an organizational context, generally root cause analysis is carried out by a team of persons related to the problem. No special technique is required.

1st Why	
Because	
2nd Why	
Because	
3rd Why	
Because	
4th Why	
Because	
5th Why	
Because	

Problem Solving Worksheet

Model	Symptoms	Cause	Alternatives	Criteria/ Objectives	Decision
What is the problem?					
Why is the problem occurring?					
How can the problem be solved?					
How does one assess the best solution?					

Insert the steps from the model selected (PROACT, PDCA, Collaboration, Creative or Appreciative Inquiry) across the table.

