

# Problem Solving

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# Agenda

## Training Objectives:

- Understand key terms in problem-solving
- Discover steps to accelerate your learning
- Learn the types of questions you will need to master
- Develop problem-solving techniques

# Key Terms

- Problem-Solving
- Critical Thinking
- Creative Thinking
- Strategic Thinking
- Decision-Making



# Problem-Solving

➤ Involves using higher-order thinking skills to effectively handle and critically work out realistic solutions to problems.

- Is a basic skill or tool that is needed by employees for workplace demands
- Includes a complex set of cognitive, behavioral, and attitudinal components
- Can be a multiple-step process






# Critical Thinking

- Involves examining the meaning and significance of what is observed or expressed.
  - Is a useful skill in making careful considerations during problem-solving
  - Involves objectively and thoughtfully examining evidence before making judgments
  - Requires logic, reasoning, clarity, credibility, accuracy, relevance, depth, significance, and fairness.

# Creative Thinking

- Involves exploring ideas, generating possibilities, and looking for many right answers rather than just one.
  - Thinking creatively allows individuals to have the ability to accept change and newness, a willingness to play with ideas, and a flexibility in their outlooks
- Is an important mode of thinking when trying to solve problems



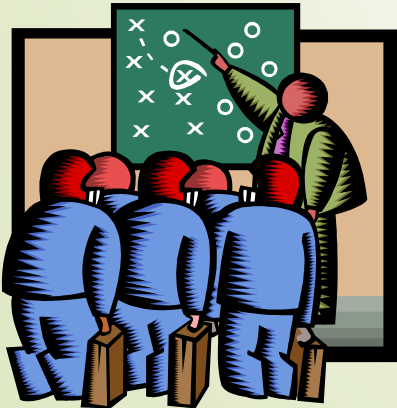


# Positive Attitudes that Lead to Creativity

- 1.) Curiosity
- 2.) Challenge
- 3.) Constructive Discontent
- 4.) Believing most problems can be solved
- 5.) Understanding that problems can lead to improvements
- 6.) Seeing the good in the bad

# Strategic Thinking

- Involves assessing a program in relation to its mission, its future goals, and the external environment.
  - requires examining whether a program is "doing the right things" in order to achieve its mission
  - means having an end goal or vision in mind and developing plans to reach them



# Characteristics of Strategic Thinking



➤ There is a focus

- long-term rather than short-term outcomes
- the “big picture” and underlying systems
- critical and creative thinking
- leverage and gaining a maximum advantage

# Decision-Making



- Involves identifying & choosing alternatives based on the values and preferences of the decision maker.
  
- When making choices among alternatives, we want the decision that:
  - 1) Has the highest chance of being successful or effective
  - 2) Best fits with our needs, goals, desires, and values
  
- Decisions can be simple or complex



# Types of Decisions

## 1.) Decisions about whether or not

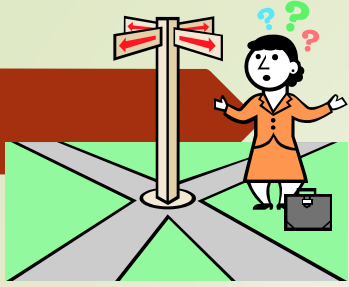
- involves yes/no, either/or decisions
- make decisions by weighing pros versus cons

## 2.) Decisions of which

- involves choosing the best alternative among a set of decisions

## 3.) Contingent decisions

- depend on certain conditions being met



# Decision-Making Steps

- 1.) Identify the decision that needs to be made and possible goals to reach.
- 2.) Gather up information.
- 3.) Generate a list of alternative solutions.
- 4.) Rate the alternatives.
- 5.) Examine the risk of each alternative.
- 6.) Make the decision.

# How to Accelerate your Learning for Problem-Solving

In order to accelerate learning, one must acknowledge their **personal learning style**, maximize their **intelligence** and their ability to acquire and **remember information**.



# Determine your Learning Style


➤ Knowing your learning style can help you capitalize on your strengths and play down weaknesses

➤ Learning is dependent on our senses to receive information

➤ There is a tendency to use certain



others a tendency to use



# Determine your Learning Style

▶ Three Learning Basic Learning Styles:

1.) **Visual:** learning through “seeing”

▶ Ex: Diagrams, illustrations, pictures

2.) **Auditory:** learning through “hearing”

▶ Ex: Verbal lectures

3.) **Kinesthetic:** learning through “doing”

▶ Ex: Hands-on learning

▶ Find your learning style at:  
<http://people.usd.edu/~bwjames/tut/learning-style/>

# Gardner's Multiple Intelligence Theory

- ▶ Howard Gardner conceived of 8 different intelligences.
  - ▶ There are many different ways for people to demonstrate intellectual ability.
  - ▶ If we are aware of our most highly developed intelligences, we can make optimal use of them at work.

Eight intelligences: Linguistic, Logical-mathematical, Spatial, Bodily-kinesthetic, Musical, Interpersonal, Intrapersonal, Naturalist



# Gardner's Multiple Intelligence Theory

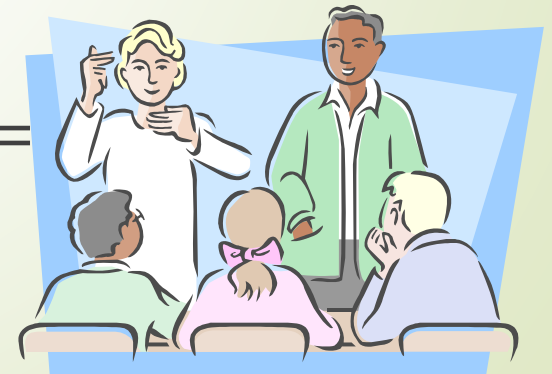
- 1.) Linguistic intelligence = “word smart”
- 2.) Logical-mathematical intelligence = “number/reasoning smart”
- 3.) Spatial intelligence = “picture smart”
- 4.) Bodily-Kinesthetic intelligence = “body smart”



# Gardner's Multiple Intelligence Theory

## Continued...


- 5.) Musical Intelligence = “music smart”
- 6.) Interpersonal intelligence = “people smart”
- 7.) Intrapersonal intelligence = “self smart”
- 8.) Naturalist intelligence =





# Develop your Memory Skills

- Memory involves recalling information that you have learned or experienced.
  - Can be short-or long term; meaning that some information is stored for different amounts of time
  - There are tips and exercises that can be used to improve memory



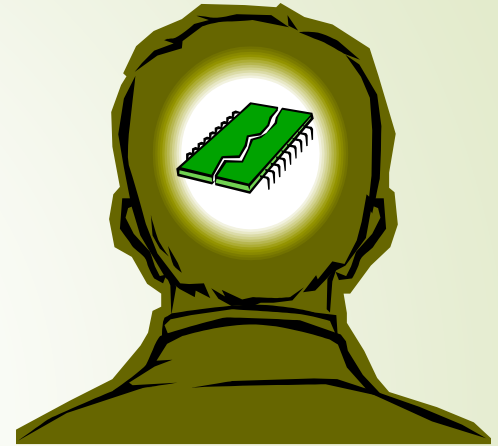
# General Methods to Improve your Memory

- 1.) Pay attention and do not multi-task
- 2.) Tailor information to your learning style
- 3.) Utilize your senses
- 4.) Relate information to what you already know
- 5.) Organize information
- 6.) Rehearse information frequently and “over-learn”
- 7.) Be motivated and maintain a positive attitude

# Mnemonic Devices to Improve Memory

Devices that can be used:

- 1.) Visual images
- 2.) Sentences
- 3.) Acronyms
- 4.) Rhymes
- 5.) “Chunking” information, which is to categorize information into smaller sections that are easier to remember



# Types of Questions Involved in Problem-Solving

There are three basic types of questions:

- 1.) Open-ended
- 2.) Closed-ended
- 3.) Leading





# Open-Ended Questions

Open-ended: is designed to encourage a full, meaningful answer using the subjects own knowledge and feelings

- Allows for a free response and can be perceived as a less threatening type of question.
- Example: Can you tell me what you think of your relationship with your boss?



# Closed-Ended Questions

Closed-ended: is designed to encourage a short or one word answer, such as “yes” or “no.”

- These questions require short responses, and thus save time. However, responses may then be more incomplete.
- Example: Do you get along well with your boss?



# Leading Questions

Leading: designed to subtly prompt the responder to answer in a particular way.

- These questions can be problematic as they can result in false or slanted information.
- Example: Tell me how this problem arose?  
*(this assumes that there is a problem and that you were involved in it arising)*

# Problem-Solving Techniques

- Problem-solving techniques are similar to those with decision-making, although there is usually a final best solution, and thus more clarity.
- This is not a linear process, and steps can be repeated or reordered if necessary
- This technique is most useful for complex problem-solving and difficult decisions



# Problem-Solving Techniques Continued...

➤ Seven steps for problem solving can be carried out.




1.) Identify the issues

- Be clear about what the problem is

2.) Understand everyone's interests

-It is important to take the perspective of all that are involved to generate the best solution



# Problem-Solving Techniques Continued...

## 3.) List possible solutions

- Brainstorm and use creativity to come up with ideas on how to solve the problem

## 4.) Evaluate the options

- Consider the pros and cons for given solutions

## 5.) Select an options or options

- Determine what is the best option and provides the most balancing solution to the problem. Consider also whether several solutions could be combined.

# Problem-Solving Techniques

## 6.) Document any agreements

- if working in a group, note the agreement among members about solutions

## 7.) Implement, monitor, and evaluate solutions



# Becoming Aware

- To be an effective problem-solver, you need to have self-awareness about your:
  - Thinking processes, decision-making skills, learning style, intelligence, memory and information acquisition, and problem-solving skills and techniques





# Test Your Knowledge

- After completing this module, a supplemental quiz should be taken in order to receive credit for the training.
- Follow the link below:



# Reference

- The Oxford Handbook of Creativity, Innovation, and Entrepreneurship (Oxford Library of Psychology) Reprint Edition by Christina Shalley (Editor)
- Meaningful Writing & Self-Publishing: Your Guide to Igniting Your Pen, Faith, Creativity & Entrepreneurship by Christina DeMara | May 13, 2018
- Hot Small Business Ideas: 25 Smokin' Hot Start Up Business Ideas To Spark Your Entrepreneurship Creativity And Have You In Business Fast! by James Harper | Aug 21, 2015
- Dream, Sink, Launch: Lessons on Creativity, Productivity, and Resilience from the Real Entrepreneurship Journey by Kristy Jackson Ed.S. | Jan 1, 2021
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- Organizational Creativity: A Practical Guide for Innovators & Entrepreneurs by Gerard J. Puccio , John F. Cabra , et al. | Apr 13, 2017