MUNDESHWARI COLLEGE FOR TEACHER EDUCATION

CC-09
ASSESSMENT FOR LEARNING

CONTENT

- Introduction: What is thinking skills ?
- Types of thinking skills
- Problem Solving
- Decision Making
- Conclusion

INTRODUCTION

WHAT IS THINKING SKILLS ?

- Thinking Skills are cognitive processes that we use to solve problems, make different decisions, asking questions, making plans, organising and creating information. Thinking skills include theorising, predicting, evaluating, memory recall and thought organisation. They are something that everyone has, but not everyone knows how to use them effectively.

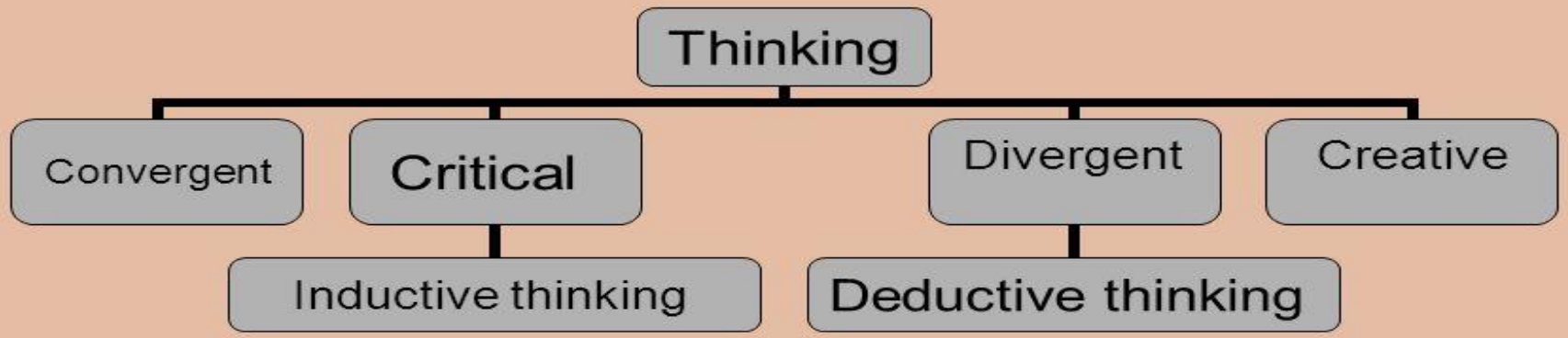
- Thinking skills enable all of us to process information, recall facts and apply knowledge to various situations. At a higher level, this can involve problem-solving and analysis, which are both useful in education.

- Developing effective thinking skills comes with time. They are what we use when we solve problems, make decisions, organize events or process information

.

- There are four types of “thinking skills”: convergent or analytical thinking, divergent thinking, critical thinking and creative thinking.

Types of thinking



Convergent Analytical Thinking

- This thinking skill does not require significant creativity or lateral thinking strategies. It is not the best for solving problems that are complex or require thinking out of the box. Instead, it uses very straightforward thought processes.

- A convergent thinker simply needs to apply already established procedures and memory recall to reach the ‘correct’ answer.

- Convergent thinking is very commonly used for standardized and multiple choice tests. These sorts of tests simply assess our knowledge and ability to apply knowledge to simple and logical situations.

Divergent Thinking

- Divergent thinking is the exact opposite of convergent thinking. It involves coming up to solutions, paths forward or new ideas when there is no single correct answer.

- We often encourage divergent thinking from a very young age. For example, we encourage children to play or simply ‘be playful’ in order to solve problems and discover how their world is complex and full of possibility.

Critical Thinking Skills

- Critical thinking skills involve analyzing something in order to form a judgement about it.
- A critical thinker does not take the assumptions of a topic for granted. Instead, the critical thinking involves ‘critiquing’ what your are viewing using your available intellectual knowledge.
- People who think critically can use three processes to develop critical insights on a topic: **deduction, induction and abduction.**

- **Deduction** includes the critical thinking skills that involve drawing conclusions based on the facts at hand. You have all the facts available to you to come to a clear and unambiguous conclusion about a topic.
- **Induction** includes the critical thinking skills that involve drawing conclusions based on a generalization. You don’t have all the exact information at hand. However, you think critically and realize are aware of patterns, clues and a methodology that can help you induce the answer.
- **Abduction** includes the critical thinking skills that involve coming to a conclusion that is the most likely or logical based on the small amount of knowledge that you have. You can’t be sure of the answer, but you can think critically and make an educated guess.

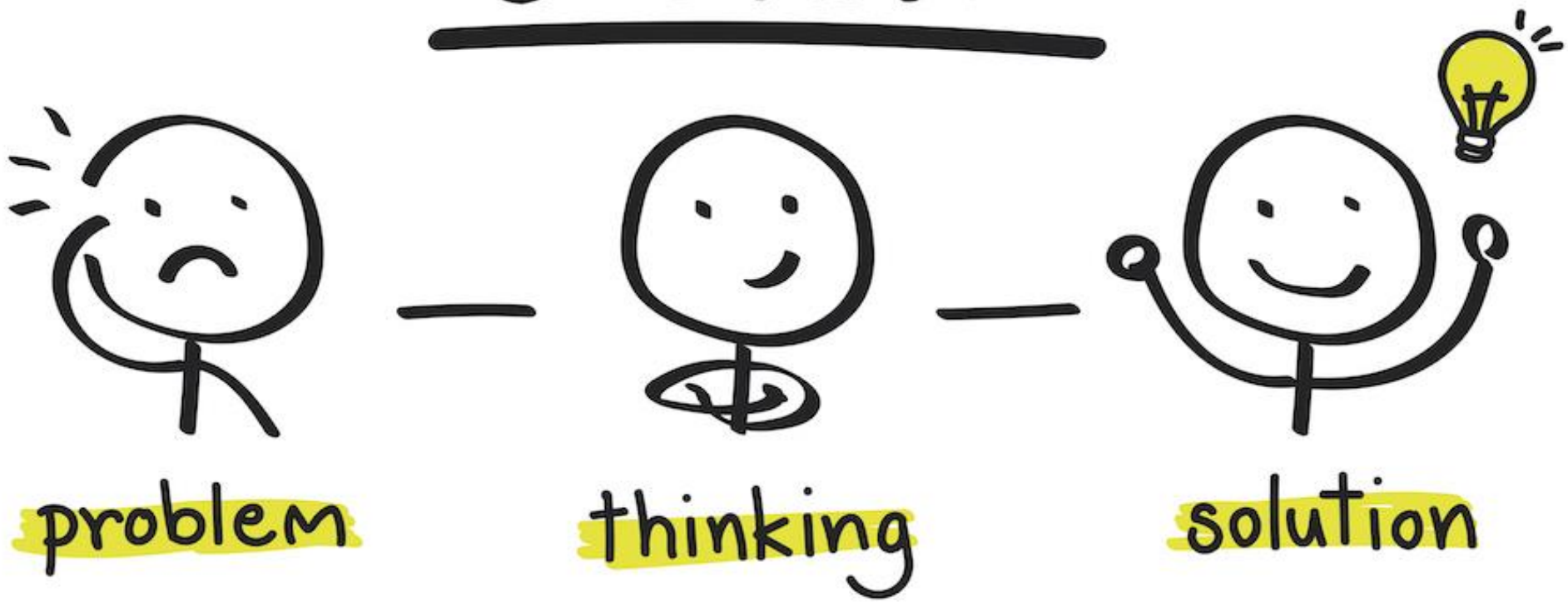
PROBLEM SOLVING

- Problem-solving is a mental process that involves discovering, analyzing, and solving problems. The ultimate goal of problem-solving is to overcome obstacles and find a solution that best resolves the issue.
- The best strategy for solving a problem depends largely on the unique situation. In some cases, people are better off learning everything they can about the issue and then using factual knowledge to come up with a solution. In other instances, creativity and insight are the best options.
- It is not necessary to follow problem-solving steps sequentially, It is common to skip steps or even go back through steps multiple times until the desired solution is reached.
- The following steps include developing strategies and organizing knowledge.

- **Identifying the Problem** :- Identifying the problem is not always as simple as it sounds. In some cases, people might mistakenly identify the wrong source of a problem, which will make attempts to solve it inefficient or even useless.
- **Defining the Problem** :- After the problem has been identified, it is important to fully define the problem so that it can be solved. You can define a problem by operationally defining each aspect of the problem and setting goals for what aspects of the problem you will address.
- **Forming a Strategy** :- After the problem has been identified, it is time to start brainstorming potential solutions. This step usually involves generating as many ideas as possible without judging their quality. Once several possibilities have been generated, they can be evaluated and narrowed down.
- **Organizing Information** :- Before coming up with a solution, you need to first organize the available information. What do you know about the problem? What do you not know? The more information that is available the better prepared you will be to come up with an accurate solution.

- **Allocating Resources** :- At this stage, it is important to consider all of the factors that might affect the problem at hand. This includes looking at the available resources, deadlines that need to be met, and any possible risks involved in each solution. After careful evaluation, a decision can be made about which solution to pursue.
- **Monitoring Progress** :- After selecting a problem-solving strategy, it is time to put the plan into action and see if it works. It is also important to monitor the situation after implementing a solution to ensure that the problem has been solved and that no new problems have arisen as a result of the proposed solution.
- **Evaluating the Results** :- After a solution has been reached, it is important to evaluate the results to determine if it is the best possible solution to the problem. This evaluation might be immediate, such as checking the results of a math problem to ensure the answer is correct, or it can be delayed, such as evaluating the success of a therapy program after several months of treatment.

PROBLEM SOLVING



DECISION MAKING

- Decision-making is a high-level cognitive process based on cognitive processes like perception, attention, and memory. Real-life situations require series of decisions to be made, with each decision depending on previous feedback from a potentially changing environment.
- To gain a better understanding of the underlying processes of dynamic decision-making, we applied the method of cognitive modeling on a complex rule-based category learning task.
- Here, participants first needed to identify the conjunction of two rules that defined a target category and later adapt to a reversal of feedback contingencies.

Conclusion

- Thinking skills are necessary for problem solving, decision making, and thinking critically. They help you do your job better, make smart decisions, and improve your own life. You can classify your thinking skills into: convergent thinking, divergent thinking, critical thinking, and creative skills


Thank
you!