Critical thinking is a rich concept that has been developing throughout the past 2,500 years. The term "critical thinking" has its roots in the mid-late 20th century. Below, we offer overlapping definitions which together form a substantive and trans-disciplinary conception of critical thinking.

Why Critical Thinking?

The Problem

Everyone thinks; it is our nature to do so. But much of our thinking, left to itself, is biased, distorted, partial, uninformed or down-right prejudiced. Yet the quality of our life and that of what we produce, make, or build depends precisely on the quality of our thought. Shoddy thinking is costly, both in money and in quality of life. Excellence in thought, however, must be systematically cultivated.

A Definition

Critical thinking is that mode of thinking - about any subject, content, or problem - in which the thinker improves the quality of his or her thinking by skilfully taking charge of the structures inherent in thinking and imposing intellectual standards upon them.

The Result

A well cultivated critical thinker:

- raises vital questions and problems, formulating them clearly and precisely;
- gathers and assesses relevant information, using abstract ideas to interpret it effectively comes to well-reasoned conclusions and solutions, testing them against relevant criteria and standards;
- thinks open mindedly within alternative systems of thought, recognizing and assessing, as need be, their assumptions, implications, and practical consequences; and

- communicates effectively with others in figuring out solutions to complex problems.

Critical thinking is, in short, self-directed, self-disciplined, self-monitored, and self-corrective thinking. It presupposes assent to rigorous standards of excellence and mindful command of their use. It entails effective communication and problem-solving abilities and a commitment to overcome our native egocentrism and sociocentrism.

What is Critical Thinking?

Critical thinking is the ability to think clearly and rationally, understanding the logical connection between ideas. Critical thinking has been the subject of much debate and thought since the time of early Greek philosophers such as Plato and Socrates and has continued to be a subject of discussion into the modern age, for example the ability to recognise fake news.

Critical thinking might be described as the ability to engage in reflective and independent thinking.

In essence, critical thinking requires you to use your ability to reason. It is about being an active learner rather than a passive recipient of information.

Critical thinkers rigorously question ideas and assumptions rather than accepting them at face value. They will always seek to determine whether the ideas, arguments and findings represent the entire picture and are open to finding that they do not.

Critical thinkers will identify, analyse and solve problems systematically rather than by intuition or instinct.

Someone with critical thinking skills can:

- Understand the links between ideas.
- Determine the importance and relevance of arguments and ideas.
- Recognise, build and appraise arguments.
- Identify inconsistencies and errors in reasoning.

- Approach problems in a consistent and systematic way.
- Reflect on the justification of their own assumptions, beliefs and values.

Critical thinking is thinking about things in certain ways so as to arrive at the best possible solution in the circumstances that the thinker is aware of. In more everyday language, it is a way of thinking about whatever is presently occupying your mind so that you come to the best possible conclusion.

Critical Thinking is:

A way of thinking about particular things at a particular time; it is not the accumulation of facts and knowledge or something that you can learn once and then use in that form forever, such as the nine times table you learn and use in school.

The Skills We Need for Critical Thinking

The skills that we need in order to be able to think critically are varied and include observation, analysis, interpretation, reflection, evaluation, inference, explanation, problem solving, and decision making.

Specifically we need to be able to:

- Think about a topic or issue in an objective and critical way.
- Identify the different arguments there are in relation to a particular issue.
- Evaluate a point of view to determine how strong or valid it is.
- Recognise any weaknesses or negative points that there are in the evidence or argument.
- Notice what implications there might be behind a statement or argument.
- Provide structured reasoning and support for an argument that we wish to make.

The Critical Thinking Process

You should be aware that none of us think critically all the time. Sometimes we think in almost any way but critically, for example when our self-control is affected by anger, grief or joy or when we are feeling just plain 'bloody minded'. On the other hand, the good news is that, since our critical thinking ability varies according to our current mindset, most of the time we can learn to improve our critical thinking ability by developing certain routine activities and applying them to all problems that present themselves. Once you understand the theory of critical thinking, improving your critical thinking skills takes persistence and practice.

Try this simple exercise to help you to start thinking critically.

Think of something that someone has recently told you. Then ask yourself the following questions:

1. **Who said it?**

Someone you know? Someone in a position of authority or power? Does it matter who told you this?

2. **What did they say?**

Did they give facts or opinions? Did they provide all the facts? Did they leave anything out?

3. **Where did they say it?**

Was it in public or in private? Did other people have a chance to respond an provide an alternative account?

4. **When did they say it?**

Was it before, during or after an important event? Is timing important?

5. **Why did they say it?**

Did they explain the reasoning behind their opinion? Were they trying to make someone look good or bad?

6. **How did they say it?**

Were they happy or sad, angry or indifferent? Did they write it or say it? Could you understand what was said?

- **What are you Aiming to Achieve?**

One of the most important aspects of critical thinking is to decide what you are aiming to achieve and then make a decision based on a range of possibilities. Once, you have clarified that aim for yourself you should use it as the starting point in all future situations requiring thought and, possibly, further decision making. Where needed, make your workmates, family or those around you aware of your intention to pursue this goal. You must then discipline yourself to keep on track until changing circumstances mean you have to revisit the start of the decision-making process.

However, there are things that get in the way of simple decision making. We all carry with us a range of likes and dislikes, learnt behaviours and personal preferences developed throughout our lives; they are the hallmarks of being human. A major contribution to ensuring we think critically is to be aware of these personal characteristics, preferences and biases and make allowance for them when considering possible next steps, whether they are at the pre-action consideration stage or as part of a rethink caused by unexpected or unforeseen impediments to continued progress.

The more clearly, we are aware of ourselves, our strengths and weaknesses, the more likely our critical thinking will be productive.

- **The Benefit of Foresight**

Perhaps the most important element of thinking critically is foresight.

Almost all decisions we make and implement don’t prove disastrous if we find reasons to abandon them. However, our decision making will be infinitely better and more likely to lead to success if, when we reach a tentative conclusion, we pause and consider the impact on the people

and activities around us. The elements needing consideration are generally numerous and varied. In many cases, consideration of one element from a different perspective will reveal potential dangers in pursuing our decision.

For instance, moving a business activity to a new location may improve potential output considerably but it may also lead to the loss of skilled workers if the distance moved is too great. Which of these is the more important consideration? Is there some way of lessening the conflict? These are the sort of problems that may arise from incomplete critical thinking, a demonstration perhaps of the critical importance of good critical thinking.

- **In Summary:**

- Critical thinking is aimed at achieving the best possible outcomes in any situation. In order to achieve this it must involve gathering and evaluating information from as many different sources possible.
- Critical thinking requires a clear, often uncomfortable, assessment of your personal strengths, weaknesses and preferences and their possible impact on decisions you may make.
- Critical thinking requires the development and use of foresight as far as this is possible. As Doris Day sang, “the future’s not ours to see”.
- Implementing the decisions made arising from critical thinking must take into account an assessment of possible outcomes and ways of avoiding potentially negative outcomes, or at least lessening their impact.
- Critical thinking involves reviewing the results of the application of decisions made and implementing change where possible.
- It might be thought that we are overextending our demands on critical thinking in expecting that it can help to construct focused meaning rather than examining the information given and the knowledge we have acquired to see if we can, if necessary, construct a meaning that will be acceptable and useful.
- After all, almost no information we have available to us, either externally or internally, carries any guarantee of its life or

appropriateness. Neat step-by-step instructions may provide some sort of trellis on which our basic understanding of critical thinking can blossom but it doesn't and cannot provide any assurance of certainty, utility or longevity.

Problem-Solving Skills: Definitions And Examples

When employers talk about problem-solving skills, they are often referring to the ability to handle difficult or unexpected situations in the workplace and even complex business challenges. Organisations rely on people who can assess both kinds of situations and calmly identify solutions. Such skills are traits that enable you to do that. While problem-solving skills are valued by employers, they are also highly useful in other areas of life like relationship building and day-to-day decision making.

What Are Problem-Solving Skills?

Problem-solving skills help you determine the source of a problem and find an effective solution. Although problem-solving is often identified as its own separate skill, there are other related skills that contribute to this ability.

Some key problem-solving skills include:

- Active listening
- Analysis
- Research
- Creativity
- Communication
- Dependability
- Decision making
- Team-building

Problem-solving skills are important in every career at every level. As a result, effective problem solving may also require industry or job-specific technical skills. For example, a registered nurse would need

active listening and communication skills when interacting with patients but would also need effective technical knowledge related to diseases and medications. In many cases, a nurse would require to know when to consult a doctor regarding a patient's medical needs as part of the solution.

Examples Of Problem-Solving Skills

To solve a problem effectively, you would likely use a few different skills. Here are a few examples of skills you may use when solving a problem.

- **Research**

Researching is an essential skill related to problem solving. As a problem solver, youare required to be able to identify the cause of the issue and understand it fully. You can begin to gather more information about a problem by brainstorming with other team members, consulting more experienced colleagues or acquiring knowledge through online research or courses.

- **Analysis**

The first step to solving any problem is to analyse the situation. Your analytical skills might help you understand problems and effectively develop solutions. You would also need analytical skills during research to help distinguish between effective and ineffective solutions.

- **Decision-making**

Ultimately, you would require to make a decision about how to solve problems that arise. At times (and with industry experience), you may be able to make a decision quickly. Solid research and analytical skills can help those who have less experience in their field. There may also be times when it is appropriate to take some time to craft a solution or escalate the issue to someone more capable of solving it.

- **Communication**

When identifying possible solutions, you would require to know how to communicate the problem to others. You would also require to know what communication channels are the most appropriate when seeking assistance. Once you find a solution, communicating it clearly would help reduce any confusion and make implementing a solution easier.

- **Dependability**

Dependability is one of the most important skills for problem-solvers. Solving problems in a timely manner is essential. Employers highly value individuals they can trust to both identify and then implement solutions as fast and effectively as possible.

How To Improve Your Problem-Solving Skills?

There are several methods you can use to improve your problem-solving skills. Whether you are searching for a job or currently working, improving your problem-solving skills and associated abilities would help make you a strong candidate and employee.

Acquire more technical knowledge in your field. Depending on your industry, it may be easier to solve problems if you have a strong working technical knowledge. You can gain more technical knowledge through additional coursework, training or practice.

Seek out opportunities to solve problems. By putting yourself into new situations, you are more likely to be exposed to opportunities to solve problems. You may find there are opportunities to volunteer for new projects in your current role, on another team or outside the workplace for another organisation.

Do practice problems. Practice and role-play can be useful tools when learning to develop your problem-solving skills. You can find professional practice books for your industry and problem-solving scenarios online. Practice how you might solve those problems and determine if your potential solutions are viable.

For example, in customer service, you might find a scenario like, “How would you handle an angry customer?” or “How do you respond when

a customer asks for a refund?" Practicing how you might handle these or other scenarios common in your industry can help you call upon solutions quickly when they arise on the job.

Observe how others solve problems. You may have colleagues who are skilled problem solvers. Observing how those colleagues solve problems can help you improve your own skills. If possible, ask one of your more experienced colleagues if you can observe their techniques. Asking relevant questions can be helpful in applying them in your own career.

Strategies for Critical Thinking & Problem Solving

- **Assess and Restate the Problem**

One of the central strategies to critical thinking and problem solving is developing as complete an understanding as possible of the problem. This means restating the problem in a number of different ways to learn about its dimensions, related problems, and where to look for information about the problem and possible solutions. Assessing a problem using critical thinking may reveal that it's not a problem at all, or that it's impossible to solve given present circumstances, which allows a business leader to focus on reducing its harmful effects instead of searching for a complete solution.

- **Encourage Creativity**

While critical thinking focuses on facts and evidence to solve problems, this doesn't mean that it excludes creative thought and imagination. Instead, critical thinking relies on problem solvers to consider diverse sets of possible solutions before making decisions and acting on them. A creative problem-solving strategy may require collaborating with others to get new input or hear ideas that you wouldn't think of alone. It may also require you to be patient while your ideas develop and evolve.

- **Question Assumptions**

Questioning assumptions is an important strategy to employ at each step of the critical thinking process. Just because solutions were effective in the past doesn't mean they'll be among the best possible solutions now. Use your own research instead of relying on information from unreliable sources. Use multiple data points or case studies to verify the accuracy and completeness of the information you collect. Even if questioning an assumption doesn't cause you to reject it, it may still bring you closer to a complete understanding of the best solutions by allowing you to examine the problem from another point of view.

- **Follow Up**

The critical-thinking process shouldn't end once you select a solution to your problem and implement it. Instead, thorough problem solving extends the critical thinking process to include a strategic followup that allows you to evaluate the outcome. You can compare this to your predicted consequences of implementing your solution, using the information to identify weaknesses in your critical-thinking process or search for even better solutions.