**RESOURCE REPORT E**

**PROBLEM SOLVING, CRITICAL THINKING, AND ANALYTICAL REASONING SKILLS SOUGHT BY EMPLOYERS**

Critical thinking, analytical reasoning, and problem-solving skills are required to perform well on tasks expected by employers.**[[1]](#footnote-1)** Having good problem-solving and critical thinking skills can make a major difference in a person’s career.[[2]](#footnote-2)

**Problem Solving**

Every day, from an entry-level employee to the Chairman of the Board, problems need to be resolved. Whether solving a problem for a client (internal or external), supporting those who are solving problems, or discovering new problems to solve, the challenges faced may be simple/complex or easy/difficult.

A fundamental component of every manager's role is solving problems. So, helping students become a confident problem solver is critical to their success; and confidence comes from possessing an efficient and practiced problem-solving process.

Employers want employees with well-founded skills in these areas, so they ask four questions when assessing a job candidate[[3]](#footnote-3):

1. Evaluation of information: How well does the applicant assess the quality and relevance of information?
2. Analysis and Synthesis of information: How well does the applicant analyze and synthesize data and information?
3. Drawing conclusions: How well does the applicant form a conclusion from their analysis?
4. Acknowledging alternative explanations/viewpoints: How well does the applicant consider other options and acknowledge that their answer is not the only perspective?

When an employer says they want employees who are good at solving complex problems, they are saying they want employees possessing the following skills:

* **Analytical Thinking** — A person who can use logic and critical thinking to analyze a situation.
* **Critical Thinking –** A person who makesreasoned judgments that are logical and well thought out
* **Initiative** — A person who will step up and take action without being asked. A person who looks for opportunities to make a difference.
* **Creativity** — A person who is an original thinker and have the ability to go beyond traditional approaches.
* **Resourcefulness** — A person who will adapt to new/difficult situations and devise ways to overcome obstacles.
* **Determination** — A person who is persistent and do not give up easily.
* **Results-Oriented** — A person whose focus is on getting the problem solved.

Two of the major components of problem-solving skills are critical thinking and analytical reasoning. These two skills are at the top of skills required of applicants by employers.

**Critical Thinking**[[4]](#footnote-4)

“Mentions of critical thinking in job postings have doubled since 2009, according to an analysis by career-search site Indeed.com.”[[5]](#footnote-5) Making logical and reasoned judgments that are well thought out is at the core of critical thinking. Using critical thinking an individual will not automatically accept information or conclusions drawn from to be factual, valid, true, applicable or correct. “When students are taught how to use critical thinking to tap into their creativity to solve problems, they are more successful than other students when they enter management-training programs in large corporations.”[[6]](#footnote-6)

A strong applicant should question and want to make evidence-based decisions. Employers want employees who say things such as: “Is that a fact or just an opinion? Is this conclusion based on data or gut feel?” and “If you had additional data could there be alternative possibilities?” Employers seek employees who possess the skills and abilities to conceptualize, apply, analyze, synthesize, and evaluate information to reach an answer or conclusion.

Employers require critical thinking in employees because it increases the probability of a positive business outcome. Employers want employees whose thinking is intentional, purposeful, reasoned, and goal directed.

Recruiters say they want applicants with problem-solving and critical thinking skills. They “encourages applicants to prepare stories to illustrate their critical-thinking prowess, detailing, for example, the steps a club president took to improve attendance at weekly meetings.”[[7]](#footnote-7)

**Analytical Reasoning**

Employers want students to possess analytical reasoning/thinking skills — meaning they want to hire someone who is good at breaking down problems into smaller parts to find solutions.[[8]](#footnote-8) “The adjective, analytical, and the related verb analyze can both be traced back to the Greek verb, analyein — ‘to break up, to loosen.’ If a student is analytical, you are good at taking a problem or task and breaking it down into smaller elements in to solve the problem or complete the task.”[[9]](#footnote-9)

Analytical reasoning connotes a person's general aptitude to arrive at a logical conclusion or solution to a given problems.

Just as with critical thinking, analytical thinking critically examines the different parts or details of something to fully understand or explain it. Analytical thinking often requires the person to use “cause and effect, similarities and differences, trends, associations between things, inter-relationships between the parts, the sequence of events, ways to solve complex problems, steps within a process, diagraming what is happening.”[[10]](#footnote-10)

Analytical reasoning is the ability to look at information and discern patterns within it. “The pattern could be the structure the author of the information uses to structure an argument, or trends in a large data set. By learning methods of recognizing these patterns, individuals can pull more information out of a text or data set than someone who is not using analytical reasoning to identify deeper patterns.”[[11]](#footnote-11)

Employers want employees to have the aptitude to apply analytical reasoning to problems faced by the business. For instance, “a quantitative analyst can break down data into patterns to discern information, such as if a decrease in sales is part of a seasonal pattern of ups and downs or part of a greater downward trend that a business should be worried about. By learning to recognize these patterns in both numbers and written arguments, an individual gains insights into the information that someone who simply takes the information at face value will miss.”[[12]](#footnote-12)

Managers with excellent analytical reasoning abilities are considered good at, “evaluating problems, analyzing them from more than one angle and finding a solution that works best in the given circumstances”.[[13]](#footnote-13) Businesses want managers who can apply analytical reasoning skills to meet challenges and keep a business functioning smoothly

A person with good analytical reasoning and pattern recognition skills can see trends in a problem much easier than anyone else.

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3. Op. cit. Hersh [↑](#footnote-ref-3)
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12. Ibid. [↑](#footnote-ref-12)
13. **Op. cit**. Rajib Mukherjee (2014) [↑](#footnote-ref-13)