

RED Model of Critical Thinking

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Abstract:

Critical thinking is a very hotly debated topic these days. All educators are now aware of the importance of preparing learners with critical thinking techniques, and teachers are making efforts to teach these techniques in the most appropriate way. RED model is a framework that could organize learners' critical thinking and facilitate learning. RED model lays out a path for both understanding how critical thinking works and improving each of the essential skills that help learners in composition writing. RED model of critical thinking is a three-step learning process, Recognize Assumptions, Evaluate information, and Draw conclusions. This model provides a systematic way to approach critical thinking by the use of an easy-to-remember acronym.

The first step is to recognize assumptions, helps learners to discover information gaps, as well as enrich their point of view about subjects. The art of evaluating information, the second step, entails analyzing information objectively and accurately, and also questioning the quality of supporting evidence. The last step is draw conclusions. Learners who possess this skill are able to bring diverse information together to arrive at conclusions that logically follow from the available evidence.

1.1 Introduction

Critical thinking has been used and defined by many different terms, including creativity, decision making, reasoning, rational thinking, reflective thinking, evaluative thinking, and problem solving. Over the years, there are numerous definitions of critical thinking. For instance, Dewey (1933:25)

defines critical thinking as reflective thinking, which involves the mental process of the act of inquiry, and searching to resolve doubt, hesitation, perplexity, or mental difficulty.

Paul and Elder (2014:2) also posits that “Critical thinking is the disciplined art of ensuring that you use the best thinking you are capable of in any set of situations.” The general goal of thinking is to figure out the lay of the land “we all have multiple choices to make. We need the best information to make the best choices.”

Theorists and educators have provided a variety of definitions of critical thinking. Siegel (1988:32) calls critical thinking “the educational cognate of rationality”. Lipman (1991:33) defines it as healthy skepticism, whereas Norris and Ennis (1989:3) call it “reasonable and reflective thinking that is focused upon deciding what to believe and do”. Paul and Elder (1997: 20) postulate that critical thinking is the ability of thinkers to take charge of their thinking and develop sound criteria and standards for analyzing and assessing their thinking.

Richard Paul (2004:16) sharpens the 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 skillfully analyzing, assessing, and reconstructing it. Critical thinking is self-directed, self-disciplined, self-monitored, and self-corrective thinking. It presupposes assent to rigorous standards of excellence and attentive command of their use. It entails effective communication and problem solving abilities, as well as a commitment to overcome our native egocentrism and sociocentrism.

According to Chartrand, et al (2012:59) RED model is a framework that could organize learners' critical thinking and facilitate learning. He adds

that RED model can direct learning activities in ways that increase probability of knowledge transfer. Piscitelli (2013:20) defines RED model as a systematic, step-by-step way to accomplish a task.

1.1 Critical Thinking

The literature on critical thinking has roots in two primary academic disciplines: philosophy and psychology (Lewis & Smith, 1993:32). Sternberg (1986:10) also notes a third critical thinking discipline within the field of education. These separate academic disciplines develop different approaches to defining critical thinking that reflect their particular concerns. Each of these approaches is explored more fully below.

1.2 The Philosophical Approach

The writings of Socrates, Plato, Aristotle, and more recently, Matthew Lipman and Richard Paul, represent the philosophical approach. This approach focuses on the hypothetical critical thinker, counting the qualities and characteristics of this person rather than the behaviors or actions the critical thinker can perform (Lewis & Smith, 1993:131). Sternberg (1986:12) notes that this school of thought approaches the critical thinker as an ideal kind, focusing on what people are capable of doing under the best of circumstances. Accordingly, Richard Paul (1992: 6) discusses critical thinking in the context of “perfections of thought.” Paul asserts that critical thinking can be defined in a number of different ways that should not be seen as mutually exclusive. Among his various definitions of critical thinking is

a unique kind of purposeful thinking in which the thinker systematically and habitually imposes criteria and intellectual standards upon the thinking, taking charge of the construction of thinking, guiding the construction of the thinking according the standards, assessing the effectiveness of the thinking according to the purpose, the criteria, and the standards. (1993:91)

Definitions of critical thinking emerging from the philosophical tradition include: “the propensity and skill to engage in an activity with reflective skepticism” (McPeck,1981:8), “reflective and reasonable thinking that is focused on deciding what to believe or do” (Ennis,1985:45), “skillful, responsible thinking that facilitates good judgment because it relies upon criteria, is self-correcting, and is sensitive to context” (Lipman, 1988:39), “purposeful, self-regulatory judgment which results in interpretation, analysis, evaluation, and inference, as well as explanation of the evidential, conceptual, methodological, or conceptual considerations upon which that judgment is based” (Facione, 1990:3), and “disciplined, self-directed thinking that exemplifies the perfections of thinking appropriate to a particular mode or domain of thought” (Paul, 1992:9). Thinking is goal-directed and purposive, “thinking aimed at forming a judgment,” where the thinking itself meets standards of adequacy and accuracy (Bailin et al., 1999:287), and “Judging in a reflective way what to do or what to believe” (Facione, 2000:61).

1.3 The Cognitive Psychological Approach

The cognitive psychological approach contrasts with the philosophical perspective in two ways. First, cognitive psychologists, particularly those

immersed in the behaviorist tradition and the experimental research paradigm, tend to focus on how people actually think versus how they could or should think under ideal conditions (Sternberg, 1986:13). Second, rather than defining critical thinking by pointing to characteristics of the ideal critical thinker or enumerating criteria or standards of “good” thought, those working in cognitive psychology tend to define critical thinking by the types of actions or behaviors critical thinkers can do. Typically, this approach to defining critical thinking includes a list of skills or procedures performed by critical thinkers (Lewis & Smith, 1993).

Halpern (1996:5) defines critical thinking as “thinking that is purposeful, reasoned, and goal directed. It is the kind of thinking involved in solving problems, formulating inferences, calculating likelihoods, and making decisions.”

While Bloom (1956:24) and associates’ classification of educational objectives for the cognitive domain has continued to serve as a foundation for some psychology-based classification systems and thinking skills programs (Johnson, 1994:50), more recent cognitive research has provided a rapidly expanding knowledge base for richer and more diverse models for critical thinking.

Definition of critical thinking that emerge from the cognitive psychological approach includes: “the mental processes, strategies, and representations people use to solve problems, make decisions, and learn new concepts” (Sternberg, 1986:3). While Halpern (1998:450) defines it as “the use of those cognitive skills or strategies that increase the probability of a desirable outcome” and to Willingham (2007:8) asserts “seeing both sides of an issue, being open to new evidence that disconfirms your ideas, reasoning

dispassionately, demanding that claims be backed by evidence, deducing and inferring conclusions from available facts, solving problems, and so forth.”

1.4 The Educational Approach

Finally, those working in the field of education also join in in discussions about critical thinking. Benjamin Bloom (1956:27) and his associates are included in this type. Their taxonomy for information processing skills is one of the most widely cited sources for educational practitioners when it comes to teaching and assessing higher-order thinking skills. Bloom’s taxonomy is hierarchical, with “comprehension” at the bottom and “evaluation” at the top. The three highest levels (analysis, synthesis, and evaluation) are frequently said to represent critical thinking (Kennedy et al, 1991:11).

The benefit of the educational approach is that it is based on years of classroom experience and observations of student learning, unlike both the philosophical and the psychological traditions (Sternberg, 1986:8). However, some have noted that the educational approach is limited in its ambiguity. Concepts within the taxonomy lack the clarity necessary to guide instruction and assessment in a useful way (Ennis, 1985:30). Furthermore, the frameworks developed in education have not been tested as vigorously as those developed within either philosophy or psychology (Sternberg, 1986:15).

2.0 Teaching Critical Thinking

Perhaps most importantly in today’s information age, thinking skills are viewed as crucial for educated persons to cope with a rapidly changing world. Many educators believe that specific knowledge will not be as important to

tomorrow's workers and citizens as the ability to learn and make sense of new information (Gough, 1991:80).

Fisher (2003:26) also emphasizes the significance of teaching critical thinking skills. He contends that critical thinking skills are required to be taught since students' thinking skills are not enough to face the problems. Students deal with either in education or in daily life.

Fortunately, many critical thinking researchers maintain that critical thinking skills and abilities can be taught. Kennedy, et al (1991:28) state that instructional interventions aimed at improving students' critical thinking skills have generally shown positive results dramatically by type of intervention and sample characteristics.

Freely and Steinberg (2000:63) highlight the important role of debates, group discussions, and individual problem solving activities to enhance critical thinking in the students. They argue that discussions improve critical thinking if the instructor provides the ideal opportunity for students. As far as it is a process of asking and answering questions and finding information to arrive at a reasoned judgment on a proposition, students have the chance of coming against a theory. In that case, they not only increase their knowledge but also try to win a decision. Consequently, they greatly use their ability of critical thinking.

Educators are required to focus on teaching critical thinking to inform them how to learn instead of just transmitting information that is what to say. Emphasizing on making critical thinking as a part of educational courses, scholars suggest that critical thinking can be taught in different classroom areas, such as those suggested by Schafersman (1991:45) including lectures,

laboratories, writing activities, term papers, exam questions, home work, and quantitative exercises. Students need to

develop and effectively apply critical thinking skills to their academic studies, to the complex problems that they will face, and to the critical choices they will be forced to make as a result of the information explosion and other rapid technological changes (Oliver & Utermohlen, 1995:1).

Wallace (2003:12) claims that some sort of activities upon which individual decisions are made can support critical thinking skills in students. It would be a kind of individual decision making while the person, without any further support, controls all the dimensions of a problem. So that the person reflects on his own opinion, monitors himself, and makes the final decision on his own.

Critical thinking involves working through for oneself, afresh, a problem. This means starting by thinking about the nature of the problem, thinking through the topics and striving for a reasoned, logical outcome. During the process, you need to be aware of other factors that impinge, where bias may be entering an argument, the evidence for and against the issues involved, to search for links to other parts of your language course, and critically evaluating the material throughout the process (Buzan and Buzan, 1995:25).

3.0 Modeling Critical Thinking Skills

Students are not born with the ability to think critically, and their prior learning experiences often do not require them to think critically. Therefore, instructors who wish to integrate this skill in their classroom experiences must first model the behavior (Hemming, 2000:173). Students must learn how to think critically before they can apply the skill to content situations. Modeling can be demonstrated in a discussion setting by asking a question and “walking students through” the process of critically thinking. Further, critical thinking activities should be based on a structure that includes four elements: “ill-structured problems, criteria for assessing thinking, student assessment of thinking, and improvement of thinking” (Broadbear, 2003:7). Ill-structured problems are questions that do not have a definite right or wrong answer; they include debatable issues that require “reflective judgment.” Right and wrong answers do not exist as long as logical reasoning supports the student’s choice. The second element, criteria for assessing thinking, provides students with a framework for thinking about their thinking. Providing students with individualized feedback based on their responses allows them to address specific criteria upon which they can assess their thinking, is the third element. If instructors model the criteria for critical thinking and provide a framework, students will eventually apply these techniques on their own (Lundquist, 1999:40). Finally, the process concludes with improvement of thinking. By creating a culture of inquiry where students can think about their thinking processes and practice logical constructs, students will become more willing to reconsider and revise their thinking (Duplass & Ziedler, 2002:10).

4.0 RED Model of Critical Thinking

Chartrand, et al. (2012:59) claim that learners in any field learn to organize and group information around principles that allow them to quickly draw information when they need it. By putting a thinking model in their head, they are organizing important steps and information, which help them learn more quickly and efficiently. A model, like a recipe, helps them see the ingredients and steps for success.

RED model has five steps that can become a valuable part of learners' own thinking and they are the keys to critical thinking (see Figure 2.8 & 2.9). The acronym RED helps them remember the three process steps in the middle. (see Figure 2.10)

This model has five steps:

- 1.Step 1:** Stop and think.
- 2.Step 2:** Recognize Assumptions.
- 3.Step 3:** Evaluate Information .
- 4.Step 4:** Draw Conclusions.
- 5.Step 5:** Plan of Action .



Figure 2.8

5 Steps to New Thinking (Chartrand et al,2012:59)



Figure 2.9

Keys to Critical Thinking (Chartrand et al,2012:99)



Figure 2.10

The Acronym RED (Chartrand et al,2012:60)

1- Stop and Think

Chartrand, et al. (2012:59) assert that stop and think is a reflective skill. It is the ability to stop and figure out what type of thinking skill learners need at this point. When they do this, they are actively taking control of their thinking. Learners stop and think about their thinking so that they can apply the correct strategy for the situation. Piscitelli (2013:20) states that before starting the critical thinking process, the learners have to stop all the chatter and distractions in their mind. Priority pause, take a breath and focus their thoughts.

Knoff (2002:6) says that the stop and think step is a self-control, impulse-control, and self-management step designed to classically condition students to take the time necessary to calm down and think about how they want to handle a situation. He adds that the Stop and Think step also helps educators to teach students classroom and building routine skills and other behaviors that increase students' self-management and academic engagement.

Chartrand, et al. (2012:59) present a few reflective questions that the learners may ask themselves:

- What is going here? Stop and define the situation and gauge your feelings. "Size the situation."
- What am I (are we) trying to accomplish? Stop and define your purpose or goal. Keep your purpose and goal at the forefront.
- What type of situation is this? Stop and figure out if it is important.

-Do I need to know more? Determine if you need more information to answer what, why, and how questions. Do you need more information to determine if there is a need to plan, to monitor, or to evaluate?

2- Recognize Assumptions

Recognizing assumptions allows learners to distinguish fact from opinion and shift out the relevance of the facts they are presented. Identifying assumptions helps to discover information gaps, as well as enrich learners' view of issues. (Ibid:60)

Personal experience is the most common source of an assumption and it is the most difficult to recognize. Learners hold beliefs and make assumptions based on our culture, background and experience. They want to introduce the topic by emphasizing the importance of identifying and examining assumptions. The assumptions they will encounter in the writings of others and the assumptions they will rely on in their own writings (Barnet and Bedau, 2011:24).

When the learners assume, they make a decision based on an opinion. Sometimes, that opinion comes from experience. Critical thinking requires that the learners understand the situation in front of them (Piscitelli, 2013: 21).

3- Evaluate Information

When the learners evaluate information, they consider these four criteria (Riedling, 2002:62):

1. Accuracy and authority.
2. Objectivity.
3. Currency.
4. Scope.

When the learners try to choose between alternatives, they need to sort through their relative strengths and weaknesses. To make a good choice, they need to evaluate information. They need a systematic approach to cope effectively. Before evaluating information, the teacher should clarify the situation (stop and think) so that learners know what is going on, what they are trying to accomplish, and what type of situation it is. This helps them determine how much and what type of information to gather and evaluate .

The art of evaluating arguments entails analyzing information objectively and accurately, questioning the quality of supporting evidence, and understanding how emotion influences the situation. Be objective and balanced. Look for information that is clear, relevant, credible and fair(Chartrand, et al, 2012:60).

4- Draw Conclusions

Learners who possess this skill are able to bring diverse information together to arrive at conclusions that logically follow from the available evidence, and they do not inappropriately generalize beyond the evidence. Furthermore, they will change their position when the evidence warrants doing so. They are often characterized as having “good judgment” because

they typically arrive at a quality decision. Learners can clarify their thinking by translating the verbal into the visual. This will help them make connections that are not immediately apparent, evaluate different conclusions, generate multiple alternative conclusions based on the evidence, and consider who stands to gain from certain conclusions. Be sure to explore the consequences and impact of different conclusions as part of this process (Ibid:61).

5- Plan of Action

A plan of action helps learners anticipate consequences and brings the right decision. This step keeps learners focused, helps them avoid unnecessary detours, and leads to outcomes that are more predictable. (Ibid:63)

When the learners have a basic understanding of the facts and complete picture about the situation, they are ready to plan their next step. This could range from thinking about the findings to sharing them with someone else to using the information to solve a problem (Piscitelli, 2013:22).

4.1 The Critical Thinking Process in RED Model

The critical thinking process is illustrated in Figure 2.11.

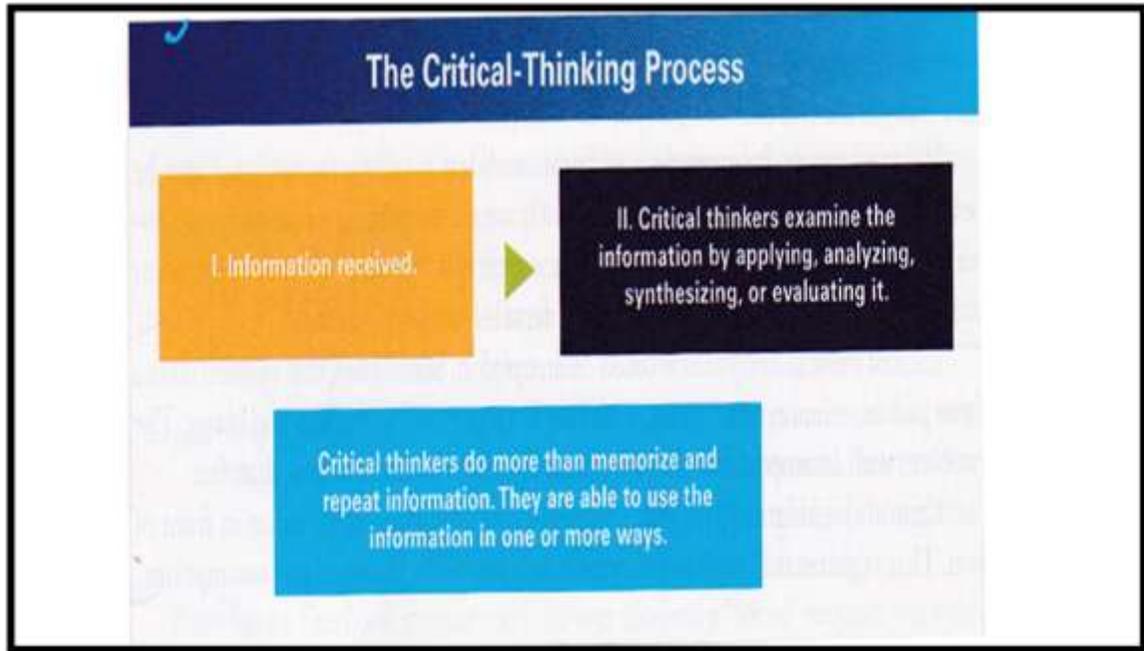


Figure 2.11

The Critical Thinking Process (Piscitelli, 2013: 22)

In the critical thinking process, the learners are recommended to:

- 1- Identify the sequence of steps for implementation and make it happen.
- 2- Be clear, open, and frequent, communication is necessary when informing others about a learners work.
- 3- Evaluate other learners work.

Piscitelli (2013:26) asserts that problem solving is a process that requires the use of critical thinking skills to examine a situation. He presents key RED questions consider when problem solving. (see Figure 2.12)

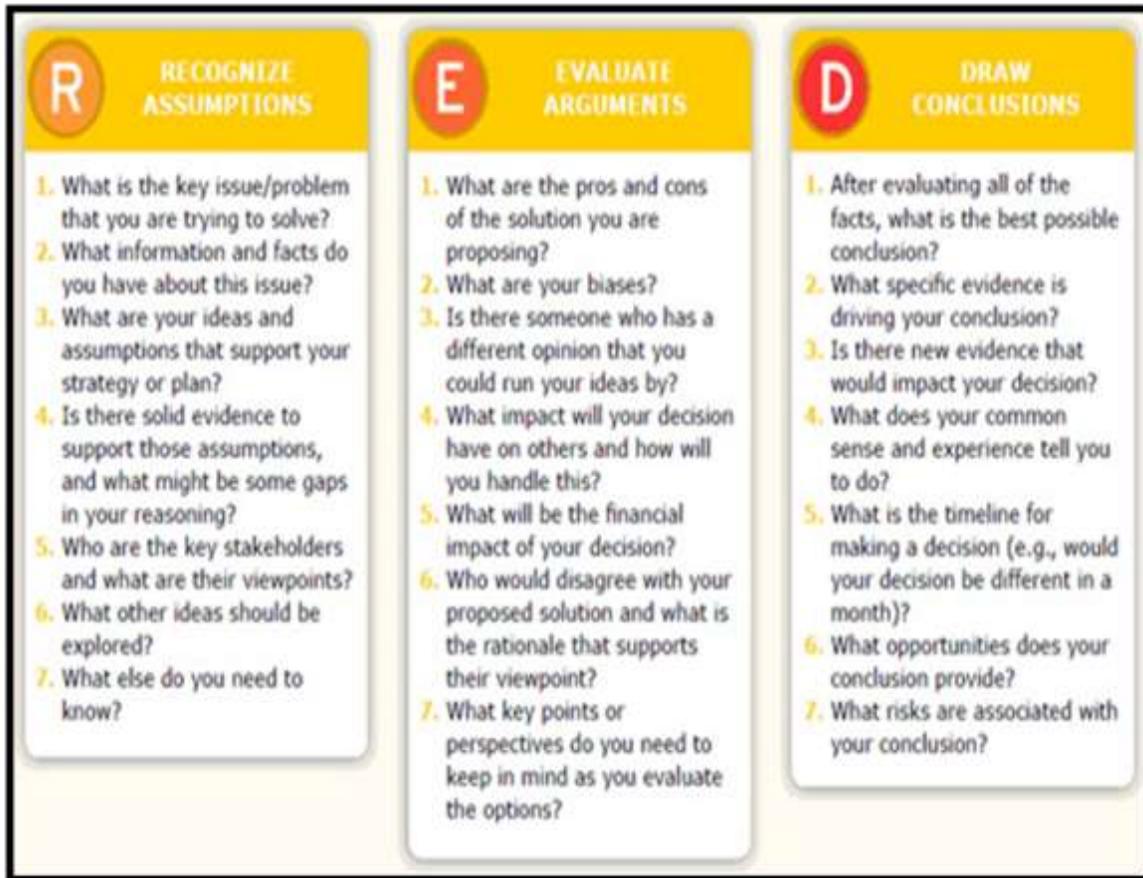


Figure 2.12

RED Questions to Consider When Problem Solving (Piscitelli,2013:26)

Conclusion

Thus, to foster thinking skills and critical thinking in particular is a challenging task nowadays. However, a critical thinker should be alerted and in his/her inquisitive nature inquire, judge, and evaluate all such sources critically. Hence, teachers should promote cognitive challenge, collaborative

learning, and metacognitive discussions in their classes. Teachers can help students become better writers not by simply telling them what or how to write but by helping them understand how writing works.

However, through teaching RED model, learners are more likely to overcome some of the problems that they encounter in the process of writing. Learners are able to organize their compositions after they have acquainted with critical thinking skills and their implications. Moreover, learners' compositions will be much clearer. Authorities and teachers can bring change to the teaching of composition writing by integrating critical thinking skills into the writing system.

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انموذج RED للتفكير الناقد

بحث مستل لطالبة الماجستير: خلود ناصر فراك

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الملخص:

التفكير الناقد هو موضوع نقاش ساخن جدا في هذه الأيام. جميع المعلمين باتت تدرك الآن أهمية إعداد المتعلمين مع تقنيات التفكير الناقد و يبذل المعلمين جهودا لتعليم هذه التقنيات في الطريقة الأنسب. نموذج RED هو الإطار الذي يمكن تنظيم التفكير الناقد المتعلمين وتسهيل التعلم. يحدد انموذج RED مسار لفهم مدى أهمية التفكير وتحسين كل من المهارات الأساسية التي تساعد المتعلمين في التعلم..

يعمل أنموذج RED في تسهيل فهم التفكير الناقد، وتحسين المهارات الأساسية التي تساعد المتعلمين على كتابة الإنشاء. يتكون أنموذج RED للتفكير الناقد من ثلاث خطوات عملية تعليمية وهي تمييز الفرضيات و تقويم المعلومات والحصول على النتائج. يوفّر الأنموذج RED طريقةً نظاميةً للتفكير الناقد وهي استعمال تذكر المفاتيح الأساسية.

الخطوة الأولى في هذا الأنموذج هي تمييز الفرضيات والتي تساعد المتعلمين على اكتشاف التفاوت في المعلومات، فضلاً عن تعزيز وجهات نظرهم في مختلف الموضوعات. الخطوة الثانية هي تقويم المعلومات والتي تعمل على تحليلها بشكل موضوعي ودقيق، وتقويم نوعية الأدلة المؤيدة. أما الخطوة الثالثة فهي رسم الاستنتاجات. إنّ المتعلمين الذين يمتلكون هذه المهارة قادرون على تقديم المعلومات المتنوعة سوياً للتوصل إلى الاستنتاجات المنطقية من الأدلة المتاحة.