A BEHAVIOURAL ANALYSIS ON LEADERS BEING RIGHT ALWAYS; A LEADERSHIP PSYCHOLOGCAL BEHAVIOUR PERSPECTIVE

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Abstract; How can it be possible to be Always Being Right, every human being thinks that and tries to behave that way, and more so who are in the leadership positions also are not bereft of this habit, atleast unknowingly. This habit usually startts in elementary school. Every person will remember the kid who thought he or she had the answer to every question, the correct answer for that? They overpower others, and always will have the last word, and even try to be right on the playground. Even, the workforce is not all that much different. The know-it-alls never seem to change and the know-it-all might be the leader. On a simple question whether is it possible to know everything, A leader need to self-diagnose, admit it, but if the leader tries to catch up justifying it, (I *am* the senior partner, so of course I'm right!), then the leaders is having a serious problem. Trying to be always right can be wrong. It can turn people against the leader, unnecessary unwanted conversations and ideas crops up and people avoid the leader altogether.

Keywords; Knowing everything; Leadership ; Right ; Self diagnose; Unwanted Conversation;

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Objectives: (i) : to evaluate what are the problems on trying to be always right

(ii): to evaluate the level of activities the Confident Leaders do and Never   demand to be right always:

Methodology: Secondary Data with review of related literature with survey datas of other countries

Data Used: Secondary Data

Scope of the study: This study will contribute to further research on the area of leadership development and include training on the subject area, which can be applied in leaders

Review of Literature;

Sternberg (1986) has also noted a third critical thinking strand within the field of education. These separate academic strands have developed different approaches to defining critical thinking that reflect their respective concerns. Each of these approaches is explored more fully below.

Sternberg (1986) has noted that this school of thought approaches the critical thinker as an ideal type, focusing on what people are capable of doing under the best of circumstances. Accordingly, Richard Paul (1992) discusses critical thinking in the context of "perfections of thought" (p. 9).

Bailin (2002) defines critical thinking as thinking of a particular quality— essentially good thinking that meets specified criteria or standards of adequacy and accuracy. Further, the philosophical approach has traditionally focused on the application of formal rules of logic (Lewis & Smith, 1993; Sternberg, 1986). One limitation of this approach to defining critical thinking is that it does not always correspond to reality (Sternberg, 1986).

Bailin (2002) argues that it is a fundamental misconception to view critical thinking as a series of discrete steps or skills, and that this misconception stems from the behaviorist's need to define

constructs in ways that are directly observable. According to this argument, because the actual process of thought is unobservable, cognitive psychologists have tended to focus on the products of such thought—behaviors or overt skills (e.g., analysis, interpretation, formulating good questions). Other philosophers have also cautioned against confusing the activity of critical thinking with its component skills (Facione, 1990), arguing that critical thinking is more than simply the sum of its parts (Van Gelder, 2005).

Ennis (1989) notes, in math, deductive proof is the gold standard for reason, whereas in the social sciences statistical significance is most highly regarded, and in art subjectivity is usually acceptable. On the other hand, Ennis acknowledges that there appear to be aspects of critical thinking that are common across disciplines, such as the notion that a conflict of interest detracts from the credibility of a source. Facione (2000) has designed the California Critical Thinking Skills Test as a general test of critical thinking rather than one embedded within the context of a specific domain.

Yet Facione (1990) also notes the importance of domain-specific knowledge in any application of critical thinking skills and abilities. Thus, Facione also falls into the category of researchers who acknowledge both general and domainspecific elements of critical thinking. Finally,

Paul (1992) identifies critical thinking as learning to think within one's discipline by appropriating the standards and values embodied in that discipline. At the same time, however, Paul points out that critical thinking skills and abilities critical thinking can be taught using both general critical thinking courses and infusing critical thinking instruction into discipline-specific courses. Transferability. Another area of disagreement among critical thinking researchers is the extent to which critical thinking skills and abilities can be transferred to new contexts.

McPeck (1990), a staunch proponent of domain specificity, notes that his approach does not preclude the transfer of critical thinking skills and abilities to real-world contexts, particularly when instruction emphasizes authentic learning activities that represent problems encountered in daily life. Empirical evidence on transfer documents both successes and failures.

Halpern (2001) describes the results of one study that sought to determine whether college students would transfer critical thinking skills acquired in the context of a specific discipline to an entirely new context several months after the course had ended. Most students in this study did indeed apply **Nickerson (1988)** finds the empirical evidence on transfer to be mixed. He concludes that the success of any transfer method appears to depend on what is being taught and how it is being taught. For example, instructional programs aimed at improving students' metacognitive skills have demonstrated more successful transfer than training programs for basic cognitive processes, such as observing, measuring, and classifying. Moreover, stand-alone approaches to instruction in general critical thinking appear to be less successful than approaches in which critical thinking instruction is infused into disciplinespecific courses alongside traditional academic content. One problem with attempting to investigate the degree of transfer is the ambiguity surrounding the "distance" of such transfer (Bailin, 2002; Ennis, 1989). In other words, is transfer near or far? On one end of the spectrum, students may be asked to transfer skills to a new but similar task. On the opposite end of the spectrum, transfer could refer to application within an entirely new discipline. In addition, some have used the term "transfer" to describe the process of applying skills learned within an academic school setting to problems encountered in everyday life (McPeck, 1990).

Lipman (1988) points out, the criteria needed to evaluate a piece of architecture are different from those needed to assess the strength of a legal argument. Criteria are also needed for evaluating one's own thought.

Paul's (1992) "perfections of thought," these criteria communicate to students the qualities of thought they should strive to achieve: clarity, accuracy, precision, specificity, relevance, consistency, logic, depth, completeness, significance, fairness, and adequacy. Given the important role of criteria in critical thinking, philosophers tend to emphasize the need to communicate these criteria to students. Thus,

Paul (1992) recommends being explicit about the intellectual standards used for evaluating student work. Similarly, Bailin et al. (1999) and Case (2005) include knowledge of criteria for judging the quality of thinking as one of five resources students need to think critically.

Kuhn (1999) sees critical thinking as being a form of metacognition, which includes metacognitive knowing (thinking that operates on declarative knowledge), meta-strategic knowing (thinking that operates on procedural knowledge), and epistemological knowing (encompassing how knowledge is produced).

Flavell (1979) sees critical thinking as forming part of the construct of metacognition when he argues that "critical appraisal of message source, quality of appeal, and probable consequences needed to cope with these inputs sensibly" can lead to "wise and thoughtful life decisions" (p. 910). On the other hand,

Van Gelder (2005) and Willingham (2007) appear to perceive metacognition as being subsumed under critical thinking when they argue that a component critical thinking skill is the ability to deploy the right strategies and skills at the right time, typically referred to as conditional or strategic knowledge and considered part of the construct of metacognition (Kuhn & Dean, 2004; Schraw et al., 2006).

Halonen (1995) identifies metacognition as the ability to monitor the quality of critical thinking. Similarly, Halpern (1998) casts metacognition as monitoring thinking and strategy use by asking the following kinds of questions: What do I already know? What is my goal? How will I know when I get there? Am I making progress? Some researchers have argued that the link between critical thinking and metacognition is self-regulation. For example, the APA Delphi report includes self-regulation as one component skill of critical thinking (Facione, 1990).

Schraw et al. (2006) draw connections between metacognition, critical thinking, and motivation under the umbrella of self-regulated learning, which they define as "our ability to understand and control our learning environments" (p. 111). Self-regulated learning, in turn, is seen as comprising three components: cognition, metacognition, and motivation. The cognitive component includes critical thinking, which Schraw and associates explain consists of identifying and analyzing sources and drawing conclusions.

Lipman (1988) has pointed out that metacognition is not necessarily critical, because one can think about one's thought in an unreflective manner.

Paul and Elder (2006) note that both creativity and critical thinking are aspects of "good," purposeful thinking. As such, critical thinking and creativity are two sides of the same coin. Good thinking requires the ability to generate intellectual products, which is associated with creativity. However, good thinking also requires the individual to be aware, strategic, and critical about the quality of those intellectual products. As the authors note, "critical thinking without creativity reduces to mere skepticism and negativity, and creativity without critical thought reduces to mere novelty" (p. 35).

Paul and Elder (2006) point out that, in practice, the two concepts are inextricably linked and develop in parallel. Accordingly, the authors believe both creative and critical thinking ought to be integrated during instruction. Development of Critical Thinking This section reviews the empirical literature on the critical thinking capacities of the average person, followed by an investigation of critical thinking in young children. Finally, we review one theoretical approach to understanding how critical thinking might appear and develop over time. Critical Thinking in the Average Person Many researchers working in the area of critical thinking lament the poor state of critical thinking in most educated adults and children. For example,

Halpern (1998) points to research from the field of psychology, concluding that many, if not most, adults fail to think critically in many situations.

Kennedy et al., (1991) and Van Gelder (2005) have likewise concluded that many adults lack basic reasoning skills.

Halpern (1998) cites the example that large numbers of people profess to believe in paranormal phenomena, despite a lack of evidence in support of such things. Halpern attributes such failures not to the inability to reason well but to simple "bugs" in reasoning. She argues that human beings are programmed to look for patterns, particularly in the form of cause-and-effect relationships, even when none exist.

Van Gelder (2005) echoes this sentiment, characterizing humans as "pattern-seekers and story-tellers" (p. 42). This inclination results in a tendency to jump to the first explanation that makes intuitive sense without carefully scrutinizing alternative possibilities, a phenomenon that Perkins, Allen, & Hafner (1983) have termed "makes-sense epistemology" (p. 286). Moreover, the general public often finds "personal experience" to be more compelling evidence than a carefully conducted, scientific study. Given these natural tendencies toward deficient reasoning, Halpern warns that we should not expect to see dramatic improvements in critical thinking over time as a result of instructional interventions. Improvements in critical thinking, when they do occur, are slow and incremental (Halpern, 1998). One reason for this gap in basic reasoning skills may be deficient educational experiences.

Paul (1992) argues that typical school instruction does not encourage the development of higher-order thinking skills like critical thinking. Paul explains that knowledge is coterminous with thinking, especially good or critical thinking. However, typical school instruction, with its emphasis on the coverage of content, is designed as though recall were equivalent to knowledge. This type of lower-order learning is simply learning by rote or association, with the end result that students memorize material without understanding the logic CRITICAL THINKING 23 of it. Students tend not to recognize that their assertions, beliefs, and statements have implications, and thus require evidence to support them. For most students, believing, not thinking, is knowing (Paul, 1992). Despite evidence suggesting that the average person struggles to think critically, many researchers are sanguine about the capacity of humans to become critical thinkers with appropriate instruction.

Kennedy et al. (1991) point out that empirical research suggests that students of all intellectual ability levels can benefit from critical thinking instruction.

Lewis and Smith (1993) argue that critical thinking skills are for everyone, not just the gifted. Critical Thinking in Children Early research in the Piagetian tradition tended to view the cognitive processes of young children as being deficient in relation to those of older individuals. Many following this tradition interpret Piaget's stages of development to mean that young children are incapable of formal operations (abstract reasoning), which are required for critical

thought (e.g., see summary in Kennedy et al., 1991). However, more recent research has found that young children engage in many of the same cognitive processes that adults do, concluding that there is a place for critical thinking in the lower elementary curriculum (see, e.g., Gelman & Markman, 1986).

Silva (2008) argues that there is no single age when children are developmentally ready to learn more complex ways of thinking. Furthermore, Willingham (2007) indicates that very young children have been observed thinking critically, whereas trained scientists occasionally fall prey to errors in reasoning.

Kennedy, et al. (1991) surveyed the research literature and concluded that, although critical thinking ability appears to improve with age, even young children can benefit from critical thinking instruction. The authors speculate that many of the earlier gloomy conclusions, critical thinking vis-à-vis the limited critical thinking skills of young children, were spurious—due to a lack of relevant background or content knowledge needed to engage in a task.

Bailin et al. (1999) argue that critical thinking instruction at the primary grade levels can include teaching students to value reason and truth; respect others during discussion; be open-minded; be willing to see things from another's perspective; perceive the difference between definitions and empirical statements; use cognitive strategies, such as asking for examples when something is unclear; and use principles of critical thinking, such as considering alternatives before making a decision.

Koenig and Harris (2005) have demonstrated that 3- and 4-year-old children will differentiate the credibility of various sources of information. In particular, critical thinking in 4-year-old children appeared to prefer the judgments of adult participants who had a history of being correct over those who were purposefully inaccurate. This finding was replicated in a number of other studies (e.g., Jaswal & Neely, 2006).

Lutz and Keil (2002) found that children as young as 4 years appeared to be aware that different people may possess differing domains of expertise and that these areas of expertise might be

related to their credibility on certain topics. For example, a car mechanic's diagnosis of car trouble was found to be more credible than a doctor's.

Heyman and Legare (2005) found that children between the ages of 7 and 10 became increasingly aware that people may have motives to distort the truth, whereas children younger than this were not consistently critical of the credibility of people with such motives. Critical Thinking Over Time Little is known about the development of critical thinking skills and dispositions over time. The APA, for example, has specifically cautioned that its framework for critical thinking should not be interpreted as implying any kind of developmental progression or hierarchical taxonomy (Facione, 1990). A few empirical studies have investigated the evolution of critical thinking skills and abilities as students proceed through college.

O'Hare and McGuinness (2009) found that the critical thinking scores of third-year university students in Ireland were significantly higher than the corresponding scores of first-year students. The authors speculated that attending university exerts an independent effect on the development of critical thinking. In a meta-analysis of eight studies from 1991 to 2000.

Gellin (2003) concluded that college students who engaged in activities such as interacting with faculty and peers, living on campus, and participating in college clubs or organizations increased their measured critical thinking skills by critical thinking, and standard deviations as compared to college students who did not participate in such activities. One of the only researchers to postulate a developmental progression of critical thinking skills and abilities is

Kuhn (1999), who synthesized a wealth of empirical research on cognitive development to construct such a progression. Kuhn's definition of critical thinking draws from the literature on metacognition, which she views as being related to critical thinking. She distinguishes three forms of metacognition, which represent successively more sophisticated ways of thinking. Metacognitive understanding is thinking that operates on declarative knowledge. In other words, it is concerned with cataloging what an individual knows and how that individual comes to know it. Meta-strategic knowing is thinking that operates on procedural knowledge. Thus, this type of cognition is concerned with monitoring and evaluating strategy use, as well as answering

questions such as, "Am I making progress?" and "Is this strategy working?" Finally, epistemological understanding is concerned with philosophical questions, such as, "How does anyone know anything?"

Kuhn's (1999) theoretical framework, metacognitive knowing characterizes the first stirrings of critical thought in very young children. There are two distinct stages within metacognitive knowing. The first stage is called Realism and is typically achieved between the ages of 3 and 5. This stage is characterized by the belief that assertions are expressions of someone's belief, and as such, may depart from reality.

Kuhn's framework (1999), the second stage of metacognitive knowing, typically achieved by 6 years of age, allows the child to be aware of sources of knowledge and further, to distinguish between theory and evidence. In other words, prior to reaching this second stage, the child has difficulty distinguishing evidence for the claim that an event has occurred from the causal theory that makes occurrence of the event plausible. In other words, is something true because it makes intuitive sense or because there is empirical evidence for it? Kuhn describes a study (Kuhn & Pearsall, 1998) in which children were shown a series of pictures depicting two runners competing in a race. The last picture shows one of the runners holding up a trophy and smiling. When children were asked who won the race, most children correctly indicated that the runner represented in the final photo was the winner. However, when asked to justify this claim, younger children tended to cite causal theories ("because he is wearing fast shoes") rather than evidence in support of the claim ("because he is holding a trophy"). According to Kuhn, by the second stage of metacognitive knowing children are able to make this distinction. Based on the empirical research in meta-memory,

Kuhn's framework (1999) also portrays meta-strategic knowing in two stages. According to Kuhn, during the first stage, typically achieved during middle childhood, children begin to understand the value of cognitive strategies in aiding cognition. A child who has reached this stage recognizes that a memory strategy such as categorization will aid recall and tends to effectively manage and deploy cognitive resources during problem solving (Kuhn, 1999). The second stage of meta-strategic knowing may not be achieved at all. If it is attained, it is typically

reached during adolescence and adulthood. According to Kuhn, this stage is characterized by consistent and appropriate strategy selection from a repertoire of available strategies. Thus, the individual monitors strategy evaluates the success of strategies, and moderates use of such strategies accordingly. Individuals at this stage also tend to justify their knowledge claims (Kuhn, 1999).

Kuhn's framework (1999) posits epistemological understanding as the most sophisticated level of critical thought. According to Kuhn, this level is characterized by three distinct stages. The first stage, called the Absolutist position, is the norm during childhood and is common during adolescence, and can even persist into adulthood for some individuals. People who have reached this stage believe that absolute truth is either "known or potentially knowable, either through direct apprehension or the opinion of experts" (Kuhn, 1999, p. 22). All belief states can be evaluated in relation to this objective truth. In other words, all disagreements are ultimately resolvable.

Kuhn (1999), the second stage in epistemological understanding, labeled the Multiplist Epistemological position, tends to be prevalent during adolescence. During this stage, the individual acknowledges that experts can disagree and actually relinquishes the idea of certainty. A person in this stage moves to the opposite end of the subjectivity-objectivity continuum, vis-à-vis those in the Absolutist stance. Instead of viewing the world as inherently and objectively knowable, individuals in this stage perceive the world as a completely subjective place. In other words, "because all people have a right to their opinions, all opinions are equally right" (p. 22). Kuhn points out that many people become permanently stuck in this phase.

Kuhn (1999) argues that the last stage in epistemological understanding (and critical thinking), to which only a minority of people will ever progress, is known as Epistemological Metaknowing. According to Kuhn's framework (1999), at this stage the individual is able to balance the subjective and objective, recognizing a multiplicity of valid 29 representations of reality. This person uses judgment, evaluation, and argumentation to sift through opinions and arrive at those that are most valid. Not all opinions are valued equally; rather, reason, logic, and empirical evidence can be used to privilege certain positions over others (Kuhn, 1999).

Instructional Implications This section explores the teachability of critical thinking, as well as the instructional implications of the empirical literature on critical thinking skills. Specific instructional recommendations for fostering the development of critical thinking will be summarized, as well. The Teachability of Critical Thinking Fortunately, many critical thinking researchers maintain that critical thinking skills and abilities can be taught.

Halpern (1998) offers evidence of two instructional programs aimed at improving the critical thinking skills and abilities of college students. In one study, students who were taught general problem-solving skills improved on Piagetian-inspired measures of cognitive development. In the other study, college students instructed in a specific type of problem-solving strategy produced mental math representations that were more like those of experts than of novices. In their review of the literature,

Kennedy et al. (1991) concluded that instructional interventions aimed at improving students' critical thinking skills have generally shown positive results. In a meta-analysis of 117 empirical studies examining the impact of instructional interventions on students' critical thinking skills and dispositions,

Abrami et al. (2008) found that these interventions, in general, have a positive impact, with a mean effect size of 0.34. However, the distribution of effect sizes was highly homogeneous, with effect sizes varying CRITICAL THINKING 30 dramatically by type of intervention and sample characteristics. For example, effect sizes for students in K–12 settings were higher than those observed among undergraduates.

Ennis (1989) described four instructional approaches that vary in terms of the extent to which critical thinking skills are taught as a stand-alone course versus integrated into regular instruction. The general approach entails direct and explicit instruction in critical thinking skills as a separate course, where critical thinking skills and abilities are emphasized outside the context of specific subject matter. Typically, some content is involved to contextualize examples and tasks. However, the content is not related to discipline-specific knowledge, but tends to be drawn from problems that students are likely to encounter in their daily lives.

Van Gelder (2005) appears to advocate for the general approach to critical thinking instruction. Drawing from the literature on expertise, Van Gelder argues that students need "deliberate practice" in exercising critical thinking skills and abilities. This type of practice can only occur when critical thinking is taught as a separate and explicit part of the curriculum. However, students must be taught to transfer critical thinking to a variety of contexts by providing them opportunities to practice applying critical thinking skills in diverse contexts. Similarly,

Halpern (**2001, p. 278**) argues that instruction in general thinking skills, taught as a "broad-based, cross-disciplinary" course, is the most effective way of teaching critical thinking. The infusion approach entails in-depth instruction in the subject matter plus explicit instruction on general critical thinking principles. This critical thinking instruction is provided in the context of specific subject matter.

Ennis (1989) indicates that this approach is commonly 31 seen in the "across the curriculum" movements. Somewhat related to the infusion approach is immersion. In immersion instruction, students are engaged in deep subject-matter instruction. Although critical thinking skills and abilities are part of the content to be learned, critical thinking instruction is not made explicit. In other words, critical thinking skills and abilities are not the focus of direct and explicit instruction. Rather, students are expected to acquire these skills as a natural consequence of engaging with the subject matter (Ennis, 1989). Proponents of the infusion and immersion approaches appear to include both

Bailin et al. (1999), who vigorously defend the domain specificity of critical thinking, and Lipman (1988), who views critical thinking skills as being somewhat general but who argues, nonetheless, that instruction in critical thinking must go hand-in-hand with instruction in basic skills, such as reading, writing, listening, and speaking.

Silva (2008) echoes this viewpoint, maintaining that knowledge and thinking have to be taught simultaneously. Likewise, Case (2005) argues that critical thinking is a lens through which to teach the content and skills embedded in the curriculum; and

Pithers and Soden (2000) reject the view that critical thinking could be taught as a separate subject. Rather, critical thinking should be viewed as a way of teaching and learning in any domain. Finally, the mixed approach combines elements of both the general and subject-specific approaches. Teachers pair stand-alone instruction in general critical thinking principles with application of critical thinking skills in the context of specific subject matter. Explicit instruction in critical thinking skills can be incorporated into both the general and the specific components (Ennis, 1989).

Facione (1990) appears to advocate for this approach when he notes that critical thinking can be taught in the context of domain-specific content, or content drawn from "events in everyday life" (p. 10).

Paul (1992) recommends basic critical thinking skills courses, as well as including critical thinking within discipline-specific courses. Kennedy et al. (1991), reviewing extant research on the various approaches, conclude that the evidence does not support the superiority of any particular approach.

Abrami et al. (2008) found that a substantial amount of the variation in effect sizes across studies was driven by pedagogical grounding and by type of intervention. In other words, when instructional approach was categorized as general, immersion, infusion, or mixed, the mixed approach had the largest effect-sizes and the immersion approach had the smallest. This finding suggests that educators should approach critical thinking instruction both by integrating critical thinking into regular academic content and,by teaching general critical thinking skills as a stand-alone component.

Hummel and Holyoak (as cited in Halpern, 1998, p. 453). The goal of structure training is to enable students to recognize a particular problem structure whenever they see it—whether it appears in math, science, or social studies— so that they may deploy appropriate strategies. Structure training involves distributing practice in a variety of contexts and settings. Halpern points out that use of "authentic" or real-world learning activities helps to promote the transfer of critical thinking skills.

Brown (1990) argues that domain-specific knowledge may also be necessary for young children to successfully transfer skills to new problems that display the same deep structure. She observes, "We conclude that even young children show insightful learning and transfer on the basis of deep structural principles, rather than mere reliance on salient perceptual features, when they have access to the requisite domain-specific knowledge to mediate that learning" (p. 130).

Thayer-Bacon (2000), who emphasizes the importance of students' relationships with others in developing critical thinking skills. Supporters also include Bailin et al. (1999), who argue that critical thinking involves the ability to respond constructively to others during group discussion, which implies interacting in pro-social ways by encouraging and respecting the contributions of others.

Heyman (2008) indicates that social experiences can shape children's reasoning about the credibility of claims. In their meta-analysis of 117 empirical studies on the effects of instructional CRITICAL THINKING 35 interventions for improving students' critical thinking skills and dispositions, Abrami et al. (2008) found a small but positive and significant effect of collaborative learning approaches on critical thinking.

Nelson (1994) provides some clues as to how collaboration can prompt cognitive development among college students. According to Nelson, students' misconceptions interfere with their ability to acquire new knowledge, despite appropriate instruction. Collaborations create opportunities for disagreements and misconceptions to surface and to be corrected. Collaboration also provides a vehicle for students to attain necessary acculturation to the college learning environment and helps to make tacit disciplinary expectations more explicit for students.

Nelson (1994) points out that collaboration must be scaffold, arguing that this scaffolding process has three stages. First, students must be prepared for collaboration by providing them with a common background on which to collaborate, such as common assigned readings. Second, student groups should be provided with questions or analytical frameworks that are more sophisticated than they would tend to use on their own. Finally, collaborative activities should be structured by specifying student roles and by creating incentives for all group members to actively participate.

Bonk and Smith (1998) identify a number of classroom activities that build on the potential for collaboration to enhance learning. These activities include think-pair-share, round-robin discussions, student interviews, roundtables, gallery walks, and "jigsawing." In addition to explicit instruction and collaboration, several other strategies have been identified as helpful in promoting critical thinking. For example, teachers are urged to use constructivist learning methods, characterized as more student-centered than teacher-centered (Bonk & Smith, 1998; Paul, 1992).

Moss and Koziol (1991) factor analyzed scores from a set of writing tasks intended to measure the critical thinking skills of students in grades 5, 8, and 11 in the context of social studies. Students who read a social studies passage either supported an inference with argumentation or evaluated an argument from the passage. The authors found no clear, common factor underlying performance across tasks that were designed to be parallel. Furthermore, students' abilities to use topic statements, evidence, explanations, conclusions, and logical organization did not generalize across tasks, suggesting that idiosyncratic and perhaps construct-irrelevant features of each passage or task were more salient aspects of student performance than any general ability to think critically.

Silva (2008) has noted that performancebased assessments of creativity introduce, rather, subjectivity and error. Moreover, use of such performance tasks to assess the growth of critical thinking skills over time remains fraught with difficulties as long as individual tasks communicate more noise than signal (Moss & Koziol, 1991).

Norris (1989) argues that the fact that the degree of domain specificity in critical thinking remains unresolved makes assessment of critical thinking difficult. First, the type of inferences one is trying to make remains unclear to the extent that researchers cannot agree whether critical thinking is general or subject-specific. Second, it is difficult to assess critical thinking transfer, because transfer to other contexts is confounded with subject-specific knowledge that is necessary for exercising critical thinking. Thus, a student who fails to transfer to another subject either requires additional instruction in critical thinking or additional instruction in the published assessments of critical thinking are numerous, and include the California Critical Thinking Skills

Test (Facione, 1990), the Cornell Critical Thinking Tests (Ennis & Millman, 2005), the Ennis-Weir Critical Thinking Essay Test (Ennis & Weir, 1985), and the Watson-Glaser Critical Thinking Appraisal (Watson & Glaser, 1980).

Ku (2009) points out, these instruments vary widely in both purpose and item format. However, as Kennedy et al. (1991) note, none of these tests are intended for use with students below the fourth-grade level. Moreover, these assessments tend to be general critical thinking assessments rather than subject-specific. Assessment Recommendations Researchers have made several suggestions for designing assessments ideally suited to assess critical thinking skills. First, open-ended problem types may be more appropriate for assessing critical thinking than traditional multiple-choice formats.

Ku (2009) argues, available empirical evidence suggests that open-ended measures better capture the construct of critical thinking because they are more sensitive to the dispositional aspects of critical thinking than are multiple-choice measures. For this reason, Ku recommends using tests of mixed item format, both multiple-choice and open-ended, to more completely represent both the cognitive and dispositional aspects of critical thinking.

Ku (2009) argues, "teachers should adopt different assessment methods, such as exercises that allow students to self-construct answers, assignments that facilitate the practice of strategic use of thinking skills in everyday contexts, and when adopting multiple-choice exercises, follow-up questions should be given to probe students' underlying reasoning" (p. 75). Assessment tasks should also reflect "authentic" problem contexts and performances (Bonk & Smith, 1998; Halpern, 1998).

Moss and Koziol (1991) explain to mean that test questions should require students to go beyond the available information in the task to draw inferences or make evaluations. In addition, problems should have more than one plausible or defensible solution, and there should be sufficient information and evidence within the task to enable students to support multiple views (Moss & Koziol, 1991).

Fischer, Spiker, and Riedel (2009) argue that critical thinking is a "stimulus-bound phenomenon," meaning that certain external task features may impact whether critical thinking is elicited in a given assessment context. The authors identify a number of context variables that affect one's use of critical thinking. For example, stimulus characteristics focus on whether the stimuli present a set of materials that is orderly, well-organized, and coherent, or a set of materials that is uncertain, ambiguous, disorganized, and contradictory. In experimental studies that attempted to validate their model of critical thinking,

Fischer et al. (2009) demonstrated that some contextual stimulus variables do seem to matter, whereas others do not. For example, the level of substance of stimulus text—in terms of the number of unique propositions contained in that text—had no main effect on the subjects' propensity to use critical thinking, operationalized in this study as the number of questions of belief and checks on thinking observed during "thinkaloud" procedures. However, the level of consistency, or lack of contradictions, within stimulus materials did have a main effect, with inconsistent or contradictory materials more likely to prompt critical thinking than consistent and coherent stimulus materials.

Fischer et al. (2009) demonstrated that certain types of tasks are more likely to elicit critical thinking than others. For example, tasks requiring the exercise of judgment were better for assessing critical thinking than tasks focused on simply understanding material presented in stimulus text. In particular, a task requiring examinees to either accept or reject a manuscript for publication elicited more questions of belief and checks on thinking than a task asking examinees to identify the main topic of a set of materials or to explain a scientific study described in stimulus materials. Moss and Koziol (1991) advocate for evaluating students on the basis of the quality of the arguments underlying their position, rather than the "correctness" of the answer.

Lewis and Smith (1993) point out that assessment tasks must go beyond requiring simple recall of learned information. Rather, tasks should require students to manipulate what they learned in new or novel contexts. Another suggestion is that critical thinking assessments should make student reasoning visible. For example, Norris (1989) argues that testing validly for critical thinking requires that we observe an examinee's process of thinking. One recommendation for

accomplishing this in the context of a multiple-choice test is to require students to provide a rationale or justification for their choice, an idea that was repeated by Kennedy et al. (1991).

Silva (2008) argued that new assessment modes are needed to measure higher-order skills, identifying several examples of recent critical thinking assessments that use novel item formats. For example, the College and Work Readiness Assessment (developed by the Council for Aid and the RAND Corporation) presents students with a 90-minute task and access to a variety of written materials on the topic, which typically represents a real-world problem. Students are then asked to make judgments and formulate a solution. River City Research Project (developed within Harvard's graduate school of education with National Science Foundation funding) is an assessment and instruction program that uses an interactive, virtual environment to present middle-school students with simulated, real-world problems that they must solve through the application of the scientific process: generating hypotheses, testing hypotheses, analyzing results, and drawing inferences and conclusions. Finally, PowerSource—developed by researchers at the National Center for Research on Evaluation, Standards & Student Testing (CRESST)—is a middle-school math assessment that combines higher-order thinking skills with mastery of basic math content in the form of narrative themes or graphic novels. Students are asked to apply math principles and to explain their reasoning.

Introduction: Leaders get uncomfortable with self; Leaders need to understand the contrast that is drastic between the "right" period and the "effective" period. The team needs to be a "we" once people stopped caring about being right. Leaders can feel a lot better and accomplished than from being "right" are a façade that hide internal weakness and insecurity. When leaders change goals from preserving their own sense of superiority to just trying to do the best they can, everything turns into impersonal and objective. Ultimately, this shift in priorities helps give weaker people leverage over others by gradually instilling doubt and undermining moral authority. Comfortable, strong people will recognize this behavior for exactly what it is: whimpering and squeaking from small people who feel like shit about themselves. When you stop needing to play the "who's right and who's wrong" game, every encounter you have with a "right"-minded person makes you think "there's a piece of work; probably not going anywhere fast." You can choose to be right or be effective. Being right is always the wrong choice. It

might sound like an infomercial in the beginning, but it's actually the truth. If you want to improve your relationships, sleep more, stress less, and just be happier, you only need one thing. You need to give up the compulsion to be right. **Being Right is always the wrong choice**; At time the leaders feel that they being right made them feel superior and made them feel better than the idiot who did that thing wrong. They feel moral, righteous and felt compelled to point it out even if it meant interrupting a speaker's presentation during a team meeting. Leaders at times spend a lot more time perfecting their talking points and PowerPoints rather than time that should have probably been spent on something that actually impacted the bottom line for the business. **Leaders fail to Be effective**; Leaders at times needlessly make assertive altercation with about people's small mistakes. The behaviour of "You're wrong, I'm right" stick leaders became less afraid of making a mistake and tried new things. People offered a simple "well, that didn't work – my bad" when something went wrong, and people stopping caring if it did. We became simultaneously more productive and accountable. **A leader needs to be an immaculate listener;** A recent Accenture study found many leaders fail because they fall in the majority of the leaders who do not listen and that they know what they're doing, so they rush people through explanations, and stops to hear from others, even disrespect conversations by trying to take on two or three things at once. The leaders should truly listen and should learn that they are not always right and try to be a better listener. The listening habit would make them a better colleague, and also boosts the expertise. A leader should not write others' ideas off just because they think they're always correct, or they'll miss out on a lot of potential lessons. Maybe other people won't change the leaders mind, but if the leader listens carefully, at least a leader will gain an understanding of why someone think differently than the leader. Leaders are not pushing the boundaries enough; It sounds pretty self-explanatory, but it's true: when the leaders are always doing the routine the same way, the leaders start feeling pretty sure that everything happens around them is right. The leaders are not able to cognitise that this mentality of thinking right always, destroys their potential to innovate and improve, and that the work output stagnates. A leader thinking that they are always right probably means they're going through repetitive motions, it may be like they did this even last year, which impedes personal development or the team's productivity. A leader in turn needs to expand their work horizons and strive for continuous improvement and make themselve both markers of fantastic leaders, teams, and contributors at the world's top companies. Leaders need to consider new

perspectives; A leader thinks he is always right because he is the expert and the one others come to for advice, but some leaders often forget the benefit from others' ideas and perspectives. Research confirms many leader's failure is because of the leaders not inviting others views and there by loose out on the new perspectives and failure to ask for feedback and ideas, hampers a leaders great work. The leaders need to make it a point to keep an open mind when a leader is in a collaborative situation, instead of judging others and asserting leader as the expert. The leaders sometimes describe someone a jerk, and that's why at times leader keeps away from listening with an open mind. The leader wont be able to understand how the other person sees the world when the leader draws his own conclusions the leader needs to consider others and work may just gain that extra spark, that takes it from good to great. Leaders should never forget to acknowledge others; A leaders know it all attitude and, do it all, win it all attitude, should never deter leader from probably stop to thank others or even realize contritbution of others for this big wins. The leader's worst know-it-all pitfall is this and a leader will fall prey to this ignorance or arrogance of not thanking others, If a leader fails in that they are not only rude, but they're pulling down the, productivity, happiness, cooperation, and innovation on your team. A leader needs to stop and look around and needs to check themselves whether they contribute ideas, stay late to help out, or even just provide great lunches to fuel the team, people are always lending a helping hand. Appreciate them. Be sincere and timely and honest. There's no better way to build relationships, trust, and teamwork. Leaders after all must be present only to motivate and inspire people to do great work. The most important element is to let others feel that the leaders know everything is, dangerous. The present day leaders should never ruin their reputation and strain their team by thinking they know better than everyone. Instead, can change their mindset and boost their work life, as well realize the one thing that they absolutely need to know to be successful is the fact that none of us know everything.

The Problem; The leader often fails to recognise, the shadow side to the mind that can activate experiences that leave leaders feeling diminished, hopeless, frightened, and puzzled. The positive nor negative perceptions represent an absolutely accurate reflection of reality. They are, rather, interpretations of ourselves, other people, and other world produced and shaped to discern the truth. The problem is leaders always can't believe what they think, and it's sometimes quite difficult to know where the truth ends and where our own distorted interpretations begin. The

habit of trying to be right often creates unexpected challenges; Unlimited supply of opportunities comes from unexpected challenges and extensive growth opportunities expandd.

Objective: I : to evaluate what are the problems on trying to be always right

The Problem With Always Being Right

Chances are that every leaders think they're always right. The job of a leader dealing with them that they're always right and actually *being* right are two completely different things. Whether it's out of ignorance or foolish pride, a leader is compelled to defend their position and justify his or her decisions to defend self and those around them. Ultimately a leader's current and future decisions are built upon the previous ones. This happens when a leader is unable or unwilling to admit that earlier decisions were wrong, and still risk making a long string of costly mistakes that could have easily been avoided. The reality is that no one is right all the time. Being honest with self by a leader and admit what everyone else already knows can bring out a fruitful decision. With serious determination to "win," most often by the leaders, the leaders refuse to acknowledge the other person's perspective, and is guided solely by emotions, and that there are substantial consequences is often overlooked.

The Three Biggest Mistakes the leader makes.

- **The Need to be right always**: The ultimate impact of righteousness is the one that a leaders is always trapped in current mindset. If a leader is always right, the people can never get to be different. And if people never get to be different, then people may always get more of what they have right now. If a leader let go of the need to be right, seek first to understand, and they'll discover a new sense of growth and possibility. Taking a moment and reflecting on the relationships at work and at home contemplatign on "how much does the 'I'm right, you're wrong' dynamic play out in a leaders everyday interactions?" honestly even a leader with ourselves, will find this dynamic a familiar companion in face-to-face conversations, on the phone or in emails and (especially) online. Either unconsciously or consciously, the leader finds self the need to be right. Our need to feel safe and secure

- **A leader's ego to feel strong, safe and secure**. When a shoe is on the other foot and when a leader experience the feeling of being wrong, the ego personality reacts to leave a leader

feeling fearful, stupid, insecure, deficient small and/or invisible. The realistic deal is that someone always will lose in this "win-lose" dynamics. And, the desperation to win, or experiencing being wrong, leaders find themselves enmeshed in interpersonal relationships characterized by mistrust, conflict, competition, frustration, anger or sadness, all of which are based on fear.Of course, the solution for this dynamic is not to live in a world of polarity and choosing instead a world of inclusion. That means rejecting 'right vs. wrong' and 'either/or' in favour of 'both/and'.The challenge for a leaders ego relate to others in a way that lets the leaders transcend their personal win-lose dynamic and focus on commonalities. In the world of the ego, it's all about being separate and independent, "me vs. you".

- **A leaders "you and me"perspective**. It's win-win. It's about "we." The truth is that while every human being is innately heart-felt, spiritual beings, still possess egos. Somewhere along the path of the growth, these people are separated from the heart-felt and interconnected aspects of the being-ness and began to focus on being separate from one another, in other words, on the human and ego aspects of personalities. Leaders are no different.

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Objective ii: To evaluate the level of activities the Confident Leaders do and Never demand to be right always:

Things Truly Confident People Do Differently;

True confidence—as opposed to the false confidence people project to mask their insecurities has a look all its own. When it comes to confidence, one thing is certain: truly confident leader always have the upper hand over the doubtful and the skittish leader, because they inspire others and they make things happen. Any leader who thinks he can, or he can't is right. Ford's notion that human mentality has a powerful effect upon the ability to succeed is manifest in the results of a recent study at the University of Melbourne where confident people went on to earn higher wages and get promoted more quickly than anyone else. Learning to be confident is clearly important, but what is it that truly confident people do that sets them apart from everyone else needs to be clear and research proves that there are 12 cardinal habits of truly confident people, which the sucessful leadership holds are;

Truly Confident leaders get happiness from within: Happiness is a critical element of confidence, because in order to be confident in *what you do*, you have to be happy with *who you are*. People who brim with confidence derive their sense of pleasure and satisfaction from their own accomplishments, as opposed to *what other people think* of their accomplishments. They know that no matter what anyone says, they're never as good or bad as people say they are. **The Truly Confident leaders never pass judgement:** Confident people don't pass judgment on others because they know that everyone has something to offer, and they don't need to take other people down a notch in order to feel good about themselves. Comparing yourself to other people is limiting. Confident people don't waste time sizing people up and worrying about whether or not they measure up to everyone they meet. **The turly confident leaders never say "Yes" Unless they really want to:** Research conducted at the University of California in San Francisco shows that the more difficulty in saying no, the more likely the individual leader will experience stress, burnout, and even depression. Confident leaders know that saying no is healthy and they have the self-esteem to make their no's clear. When it's time to say no, confident people avoid phrases like "I don't think I can" or "I'm not certain." They say no with confidence because they know that saying no to a new commitment honors their existing commitments and gives them the opportunity to successfully fulfill them. **The truly confident leaders listen more than they speak:** **Leaders** with confidence listen more than they speak because they don't feel like they have anything to prove. Confident leaders know that by actively listening and paying attention to others, they are much more likely to learn and grow. Instead of seeing interactions as opportunities to prove themselves to others, they focus on the interaction itself, because they know this is a far more enjoyable and productive. While it may be obvious, when you are bright – and able to connect dots to points that no one else can see – it's pretty tempting to strut your own stuff. The problem is that it can be obnoxious. **The truly confident leaders Pace themselves well.** A truly confident leader finds the right moment to speak up. When discussions hit a stall point, offer suggestions. If others are intrigued, proceed. If people turn away, the confident leader waits for another time. **The truly confident leader shares ideas with others.** Every organization loves team players but not all teammates are created equal. The true leaders find people who they can trust and share their ideas with them and allow them to introduce them at meetings. Yes, in the short run others will get the credit but in time people will know it is the leader who is offering solutions that others can use. **The turly confident leaders**

clearly is aware of how to take the spotlight. A leaders need to do that right way. The leaders need to show deference to superiors as how that is, a leader need not tell them how to do their jobs. The leaders offer a better way to do things. The true leader is one who solves problems offers solutions that benefit others. . The "**three P's**" **The purpose , the process, and the payoff. It does** sound good to when someone—particularly a leader—insists on always being right. In fact, when a leader's desire to display competence turns into a need to win at all costs, they can actually lose the respect of their team, undermining morale, performance, and productivity. This becomes particularly problematic in the case of decision-making. So the tendency to want to be right all the time, put a stop to this habit now. There's no rule stating you must always use your ideas or solutions to be an effective leader. In fact, Disciplined Leaders recognize that if they are obsessed with trying to be right and winning every argument, they're going to be viewed as less credible and worthy of following. **The truly confident leader admit that they don't have all the answers.** Here's a truth: Even if you're the greatest leader of all times, you don't know everything. Furthermore, it's impossible for any one person to be correct 100 percent of the time. So put aside the ego or any tendencies toward perfection. Learn to embrace the fact that you, like everyone else, will be vulnerable at times, or lacking in ideas and solutions. Recognizing the humanity within you is the first step in the process of getting the right answers. It demonstrates humility (a key leadership trait), selflessness, and intelligence. And, as Sir Ken Robinson says, "If you're not prepared to be wrong, you'll never come up with anything original." **True confident leaders ask for help.** Particularly when you're faced with big decisions, it can take a lot of guts to admit you're unsure of what idea or solution might be best. But remember, Disciplined Leaders bravely put aside their egos and consistently cultivate the wealth of knowledge that their people bring to the table. They create an environment in which team members feel they can speak up and share their thoughts and ideas. Moreover, when challenges arise, these leaders ask their people to develop solutions and aren't afraid to say, "Your idea is way better than mine!" In doing so, they empower and validate the wisdom and talents of their people while mining the very best of their education, skills, knowledge, and talents. And, most importantly, when a solution becomes the best one, they let their people know that they, the people, were the ones who were right, and the best leaders celebrate those successes. **True leaders acknowledge their mistakes.** If your idea totally flopped or failed to some degree, be OK with telling people that you got it wrong. You do not need to go around

apologizing to everyone or dwelling on the issue. But do make it clear that although you may expect excellence in yourself, perfection is never an option because it's not realistic. When you admit you're wrong, this, again, demonstrates vulnerability and gives everyone, including you, the opportunity to course correct or come up with the right idea or solution. Hide behind mistakes, however, and you'll do nothing but build contempt for your leadership within your culture and stifle morale and performance. Upon owning up to any errors or less-than-ideal ideas or solutions you might have had, keep a forward focus on what's vital and get the help you need to get back on track toward achieving your goal.
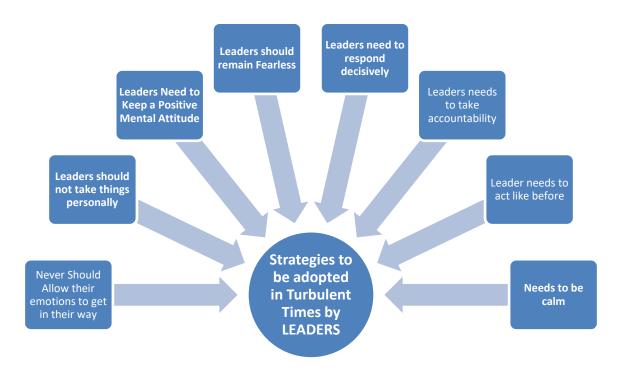

Figure:1: 12 Cardinal habits of Truly Confident Leaders : Figure: Prof Dr.C.Karthikeyan
Objective : iii : To know the strategies that can be adopted in difficult times

Strategies to keep leadership composure in difficult times: Leaders need to show more composure than ever before in the workplace. With the change management requirements, increased marketplace demands and intensifying competitive factors that surround us, leaders must have greater poise, agility and patience to minimize the impact of uncertainty. How leaders respond to these and other growing pressures is an indicator of their leadership preparedness, maturity and acumen.The composure of a leader is reflected in their attitude, body

language and overall presence. In today's evolving business environment, it is clear that leadership is not only about elevating the performance, aptitude and development of people – but more so about the ability to make people feel safe and secure. Employees have grown tired of working in survival mode and thus want to be part of a workplace culture where they can get back to doing their best work without the fear of losing their jobs.

A leaders never should allow their emotions to get in the way: Seasoned leaders know not to wear their emotions on their sleeves. They don't yell or get overly animated when times get tough. These types of leaders have such emotional self-control that even their body language does not give them away.When you allow your emotions to get in the way, employees interpret this as a sign you are not being objective enough and too passionate about the situation at hand. Strong-willed leaders can maintain their composure and still express concern and care, but not to the point that their emotions become a distraction – or that they can't responsibly handle the issues at hand. **Leaders should not take things personally:** Leaders shouldn't take things personally when things don't go their way. Business decisions and circumstances don't always play out logically because office politics and other dynamics factor into the process. As a leader, remain calm and don't get defensive or think that you always must justify your thinking and actions.When you begin to take things personally, it's difficult to maintain your composure and make those around you believe that you have things under control. In fact, when leaders take issues too close to heart, they allow the noise and politics around them to suffocate their thinking and decision-making capabilities. **Leaders need to keep a positive mental attitude:** Employees are always watching their leader's actions, behavior, relationships and overall demeanor. During the most difficult of times, leaders must maintain a positive mental attitude and manage a narrative that keeps their employees inspired and hopeful. This is where your leadership experience and resolve can really shine – by staying strong, smiling often and authentically exhibiting a sense of compassion.Leaders set the tone for the organization they serve. A positive attitude can neutralize chaos and allow a leader to course correct through any negativity. Employees feed off the attitude of these leaders during times of uncertainty. Keep a positive mental attitude and never stop moving forward. Stay focused on building positive momentum for the betterment of the healthier whole. **Leaders should remain fearless:** When leaders project confidence, they instill it in others. During uncertain times, leaders must remain

fearless and project a cool persona that communicates composure to those they lead.I've been through ups and downs in my career and have learned that when you begin to fear adverse circumstances, you not only put yourself in a position of vulnerability, but it becomes extremely difficult to act rationally and objectively.   When you panic, you mentally freeze and your mind loses focus.When you begin to get fearful, ask yourself: What is the worst possible thing that can happen? If you are objective about it and have the will and confidence to face it, you will eventually realize that the situation is manageable and can be resolved. Faced with adversity several times over, your fears will eventually vanish and uncertainty will become your best friend. **A leader needs to respond decisively:** Leaders who maintain their composure will never show any signs of doubt. They speak with conviction, confidence and authority – whether they know the answer or not! With their delivery alone, they give their employees a sense that everything is under control. Recently, Mack Brown, the former coach of the University of Texas (UT) football team, was put under a lot of pressure to resign as a result of his team underperforming in 2013. Though the University handled his forced resignation poorly – considering Mr. Brown had coached the team successfully for the past 16 years – his decisiveness the day he announced his resignation made you feel that his transition out of the job was a positive thing for the university. Human nature will tell you that he must have been hurting inside, but his decisiveness and presence of mind made those that were watching him speak believe that the future looked bright for UT football.   **A leader needs to take accountability:** Leaders are most composed during times of crisis and change when they are fully committed to resolving the issue at hand.   When you are accountable, this means that you have made the decision to assume responsibility and take the required steps to problem solve before the situation gets out of hand.When leaders assume accountability, they begin to neutralize the problem and place the environment from which it sprung on pause – much like New Jersey Governor Chris Christie did when he announced that he did not have any prior knowledge of the decision his aides made to close down access lanes to the George Washington Bridge. Though there may be legal woes to come, the manner in which he handled the initial news conference (temporarily) neutralized the crisis – as he answered all of the reporters' questions and took full responsibility and accountability to punish the perpetrators and keep something like this from happening again.   **A leader needs to act like before:** Great leaders know that one of the most effective ways to maintain composure during difficult times is to act

like you have been there before. Leaders that act to show they have been through the problem solving process numerous times before are those with strong executive presence who approach the matter at hand with a sense of elegance and grace. They are patient, they are active listeners, and they will genuinely take a compassionate approach to ease the hardships that anyone else is experiencing.Just ask any technical support representative. When you are on the phone with them, their job is to make you feel that even your most difficult challenges can be easily resolved. They are there to calm you down and give you hope that your problem will soon be solved. Pay attention to their demeanor and how they are masters at soothing your frustrations. They always act to show that they have been there before; their composure puts your mind at ease. It's easy to lose composure during times of crisis and change if you let concern turn into worry and worry turn into fear. By maintaining composure, the best leaders remain calm, cool and in control – enabling them to step back, critically evaluate the cards that they have been dealt and face problems head-on. A show of composure also puts those you lead at ease and creates a safe and secure workplace culture where no one need panic in the face of adversity.

Figure;2: Strategies to be adopted in Turbulent Times by Leaders: Graphical Design by Prof Dr.C.Karthikeyan

Conclusion and Suggestions: (From findings from various studies including this one)

The leaders can start living the "namaste" lifestyle. Start small; Nothing is possible within 24 hours is not possible so leaders need to take care in taking baby steps for improvement in life and accept that there are a lot of people who differ in the opinion without attempting to force opinion on others. Leaders priority needs to be to face challenges and must be ready to suffer loss and pain. The leaders should find an opportunity understand their opinion without accepting their view as their own. The leaders need to acknowledge that changing others opinion, or allowing someone else to prove the leader wrong, doesn't make a leader to be less capable, the fact is no one is unique miracle of existence, and every individual in this world make mistakes and succeed, help and hurt others, do right and be wrong, still leaders need to have compassion and should get better with it. The human mind is an extraordinary support system for a leader to solve problems, imagine amazing ideas, help meet difficult challenges, transform the capacity to comprehend previously incomprehensible experiences, and other unaccountable ways, bring greater clarity and understanding into our lives. There is a shadow side to the mind that can activate experiences that leave the leader feeling diminished, hopeless, frightened, and impotent. Yet neither the positive nor negative perceptions that a leader holds represent an absolutely accurate reflection of reality. The difference between what is and what a leader think can be an incredibly difficult distinction to make, because thier thoughts can be extremely convincing when a leader is trying to discern the truth. A leader need not believe everything he thinks, not necessarily the most reliable source when it comes to the truth. Yet it's not so easy to forget that. At times the positive distortions can be just as dangerous or damaging as negative ones, similarly setting for disillusionment, disappointment, and feelings of hopelessness and resignation are more common as they grow in maturity and wisdom. The leaders need to determine how much of what is worth believing; A leader's thoughts without a rigid attachment to a single perspective, but with an openness to seeing things with some degree of, open-mindedness with self-righteous is not wrong, or knowing exactly what's true to learn something new, to it. In practicing this non-attachment, leaders are not admitting that they are wrong, they are simply expressing an openness to looking at conclusions out of perspectives. This can liberate that from defensive patterns that no longer serve us, and enhance our lives in innumerable ways. The leaders can create unexpected challenges; Relationships provides a leader with an unlimited supply of opportunities to practice this form of reflection. Old habits

take a long time to die. There are still times with decreasing frequency and it doesn't take long of being right by practicing open-mindedness and reflection is enormously valuable in our close relationships.

Suggestions to Improve as Leaders: Give up the need to be right; We are conditioned from birth, it seems, to fight for our piece of the pie, defend ourselves, or at least convince people that our views are "right." We do it with our families, at school, at work, and at social gatherings. If we're "proven wrong," we feel somehow lessened, defeated, or humiliated. In some cases, being proven wrong can upset our entire worldview, leaving us unanchored. Needing to be right is a form of violence; The problem is that every leader inadvertantly fall into the "always be right" trap. The necessary ingredients to breed disagreement, conflict, and resentment inflict our opinions of the world acknowledgment and acceptance of a differing worldview is a powerful act of understanding, self-confidence, and compassion.

References:

1.   Busch, T. & Wennes, G. Changing values in the modern public sector: the need for value-based leadership. Int. J. Leadersh. Public Serv. 8, 201–215 (2012).

2.   Lustig, P., Reynolds, J., Ringland, G. & Walsh, R. Leadership in the public sector — the next decade. Int. J. Leadersh. Public Serv. 6, 34–44 (2010).

3.   Tizard, J. The challenges and opportunities in contemporary public sector leadership. Int. J. Leadersh. Public Serv. 8, 182–190 (2012).

4.   Giauque, D., Anderfuhren-Biget, S. & Varone, F. Stress Perception in Public Organisations: Expanding the Job Demands-Job Resources Model by Including Public Service Motivation. Rev. Public Pers. Adm. 33, 58–83 (2012).

5.   Seddon, J. in Syst. Think. public Sect. - Fail. reform regime ... a Manif. a better W. 108–120 (2008).

6.   Cunningham, I. & James, P. Public Service Outsourcing and Its Employment Implications in an Era of Austerity: The Case of British Social Care. Compet. Chang. 18, 1–19 (2014).

7.   Radnor, Z. & Noke, H. Conceptualising and contextualising public sector operations management. Prod. Plan. Control 24, 867–876 (2013).

8.   . Maddock, S. Public leadership: motivated by values not bonuses. Int. J. Leadersh. Public Serv. 8, 112–120 (2012). 66. Karp, T. & Helg⊘, T. I. T. From Change Management to Change Leadership: Embracing Chaotic Change in Public Service Organizations. J. Chang. Manag. 8, 85–96 (2008).

9.   Tarplett, P. Leadership in tough times. Int. J. Leadersh. Public Serv. 7, 235–244 (2011).

10.   Ryde, R. New insights and new possibilities for public service leadership. Int. J. Leadersh. Public Serv. 5, 5–19 (2010).

11.   Steare, R. et al. Managers and their MoralDNA. Chart. Manag. Institue Rep. March, 1–30 (2014).

12.   Steare, R. et al. The MoralDNA of performance. Chart. Manag. Inst. Rep. October, 1–40 (2014).

13.   Eisenbeiss, S., Knippenberg, D. & Fahrbach, C. Doing Well by Doing Good? Analyzing the Relationship Between CEO Ethical Leadership and Firm Performance. J. Bus. Ethics 1–17 (2014).

14.   Heywood, P. Integrity management and the public service ethos in the UK: patchwork quilt or threadbare blanket? Int. Rev. Adm. Sci. 78, 474–493 (2012).

15.   Committee for Standards in Public Life. Ethics in Practice: Promoting Ethical Standards in Public Life. www.gov.uk/government/ publications/ethics-in-practice-promoting-ethical-standards-inpublic-life July, 1–41 (2014).

16.   Schuh, S. C., Zhang, X. & Tian, P. For the Good or the Bad? Interactive Effects of Transformational Leadership with Moral and Authoritarian Leadership Behaviors. J. Bus. Ethics 116, 629–640 (2012).

17.   Hollingsworth, C. Reclaiming Ethics and Character for Public Service. Public Manag. 41, 60–62 (2012).

18.   Coates, B. The Arya leader- a Vrio For Competitive Advantage. Bus. Renaiss. Q. 4, 39–59 (2009).

19.   Wheatley, M. So far from home - lost and found in our brave new world. Berrett Koehler (2012).

20.   MJ, W. & Berkana Institute, Provo, Utah, U. Leadership in turbulent times is spiritual. Front. Heal. Serv. Manag. [Front Heal. Serv Manag. 2002 Summer 18,

21.   King, M. & Lessidrenska, T. Transient Caretakers. (Pan Macmillan, 2011).

22.	Hassan, S., Wright, B. E. & Yukl, G. Does Ethical Leadership Matter in Government? Effects on Organizational Commitment, Absenteeism, and Willingness to Report Ethical Problems. Public Adm. Rev. 74, 333– 343 (2014).

23.	Greene, I. Ethics and Leadership in Times of Austerity: Ontario's Courts and "Justice on Target". Innov. J. 19, 1–9 (2014).

24.	Eisenbeiß, S. A. & Brodbeck, F. Ethical and Unethical Leadership: A Cross-Cultural and Cross-Sectoral Analysis. J. Bus. Ethics 122, 343–359 (2013).

25.	Frisch, C. & Huppenbauer, M. New Insights into Ethical Leadership: A Qualitative Investigation of the Experiences of Executive Ethical Leaders. J. Bus. Ethics 123, 23–43 (2013).

26.	Brown, M. E. & Treviño, L. K. Do Role Models Matter? An Investigation of Role Modeling as an Antecedent of Perceived Ethical Leadership. J. Bus. Ethics 122, 587–598 (2013).

27.	Shortell, S., Addicott, R., Walsh, N. & Ham, C. Accountable care organisations in the United States and England. King's Fund Brief. 1–17 (2014).

28.	Rice, C. Low Engagement? Leadersh. Excell. 25, 10 (2008).

29.	Edinger, S. Engagement Provides Fuel For Productivity. Financ. Exec. 28, 24–27 (2012).

30.	Van Dierendonck, D., Stam, D., Boersma, P., de Windt, N. & Alkema, J. Same difference? Exploring the differential mechanisms linking servant leadership and transformational leadership to follower outcomes. Leadersh. Q. 25, 544–562 (2014).

31.	Munro, E. The Munro Review of Child Protection: Final Report A childcentred system. Dep. Educ. Rep. (2011).

32.	Walker, D. A review of corporate governance in UK banks and other financial industry entities. DTI Publ. (2009).

33.	Ferguson, B. Six Degrees of Engagement for Leaders. J. Corp. Recruit. Leadersh. 6, 12–13 (2011).

34.	Kaufman, J., Markey, R., Bunton, S. D. & Azzarello, D. Who's responsible for employee engagement. Bain Insights Rep. December, (2013).

35.	Li, Alex NingLiao, H. How Do Leader–Member Exchange Quality and Differentiation Affect Performance in Teams? An Integrated Multilevel Dual Process Model. J. Appl. Psychol. on-line - , 1–20 (2014).

36.	Welbourn. The pre-eminence of Purpose in a world of paradox. Unpubl. Work

37.   Kempster, SteveJackson, BradConroy, M. Leadership as purpose: Exploring the role of purpose in leadership practice. Leadership 7, 317–334 (2011).

38.   Grint, K. Leadership: Limits and Possibilities. 1–192 (Palgrave Macmillan, 2005).

39.   Jackson, B. The Enduring Romance of Leadership Studies. J. Manag. Stud. 42, 1311–1324 (2005).

40.   Sharma, G. & Good, D. The Work of Middle Managers: Sensemaking and Sensegiving for Creating Positive Social Change. J. Appl. Behav. Sci. 49, 95–122 (2013).

41.   Teulier, R. & Rouleau, L. Middle Managers' Sensemaking and Interorganizational Change Initiation: Translation Spaces and Editing Practices. J. Chang. Manag. 13, 308–337 (2013).

42.   Naslund, L. & Pemer, F. The appropriated language: Dominant stories as a source of organizational inertia. Hum. Relations 65, 89–110 (2012).

43.   Johnson, G., Scholes, K. & Whittington, R. Exploring corporate strategy. Prentice Hall 8th editio, (2008).

44.   Filstad, C. The politics of sensemaking and sensegiving at work. J. Work. Learn. 26, 3–21 (2014).

45.   Hope, O. The Politics of Middle Management Sensemaking and Sensegiving. J. Chang. Manag. 10, 195–215 (2010).

46.   Kacmar, K. M., Andrews, M. C., Harris, K. J. & Tepper, B. J. Ethical Leadership and Subordinate Outcomes: The Mediating Role of Organizational Politics and the Moderating Role of Political Skill. J. Bus. Ethics 115, 33–44 (2012).

47.   Maclean, M., Harvey, C. & Chia, R. Sensemaking, storytelling and the legitimization of elite business careers. Hum. Relations 65, 17–40 (2012).

48.   Heifetz, R. A. & Linsky, M. A survival guide for leaders. Bus. Credit 105, 44–52 (2003).

49.   Heifetz, R. A. & Linsky, M. A survival guide for leaders. Harv. Bus. Rev. HBRs 10 Must Reads on change, 63–74 (2002).

50.   Hood, C. The 'New public management' in the 1980s: variations on a theme. Accounting, Organ. Soc. 20, 93–109 (1995).

51.   Hines, P., Holweg, M. & Rich, N. Learning to evolve: A review of contemporary lean thinking. Int. J. Oper. Prod. Manag. 24, 994–101

52.   References 1. Ghate, D., Lewis, J. & Welbourn, D. Systems Leadership: exceptional leadership for exceptional times – Synthesis paper. Virtual Staff Coll. 1–62 (2013).

53.   Welbourn, D., Ghate, D. & Lewis, J. Systems Leadership: exceptional leadership for exceptional times –Source paper 1 – Literature review. Virtual Staff Coll. 1–32 (2013).

54.   Lewis, J., Ghate, D. & Welbourn, D. Systems Leadership: exceptional leadership for exceptional times –Source paper 2 – The views of system leaders. Virtual Staff Coll. 1–38 (2013).

55.   Lewis, J., Welbourn, D. & Ghate, D. Systems Leadership: exceptional leadership for exceptional times –Source paper 3 – UK leadership scenarios. Virtual Staff Coll. 1–33 (2013).

56.   Katz, I. Systems Leadership: exceptional leadership for exceptional times - Source Paper 4d – Systems Leadership for Children's Services in Australia. Virtual Staff Coll. 1–21 (2013).

57.   Moody, B., Shlonsky, A. & Goodman, D. Systems Leadership: exceptional leadership for exceptional times - Source Paper 4b – Systems Leadership for Children's Services in Canada. Virtual Staff Coll. 1–50 (2013).

58.   Albers, B. Systems Leadership: exceptional leadership for exceptional times - Source Paper 4c – Systems Leadership for Children's Services in Denmark. Virtual Staff Coll. 1–27 (2013).

59.   Dyke, M. van. Systems Leadership: exceptional leadership for exceptional times - Source Paper 4a – Systems Leadership for Children's Services in the USA. Virtual Staff Coll. 1–66 (2013).

60.   Moore, M. H. Public value as the focus of strategy. Aust. J. Public Adm. 53, 296–303 (1994).

61.   Heffernan, M. Why we ignore the obvious at our peril. New Statesman 140, (2011).

62.   Margaret Heffernan. Wilful Blindness - why we ignore the obvious at our peril. 1–400 (Simon and Schuster Ltd, 2012).

63.   Forster, N. et al. The role of story-telling in organizational leadership. Leadersh. Organ. Dev. J. 20, 11–17 (1999).

64.   Cruz, J. Great Leaders Inspire Great Followership. Leadersh. Excell. Aug2014 31,

65.   Roebuck, C. Lead to succeed. 1–244 (Wordscapes Ltd, 2014).

66.   .Gallup. State of the Global Workforce report. Gall. Rep. 1–120 (2013).

67.   Federal-Reserve-Bank. The financial crisis - a timeline of events. St louis Fed. Reserv.

68.   Safian, R. SECRETS OF THE FLUX LEADER. (cover story). Fast Co. 96–136 (2012).

69.   Paparone, Christopher R.Topic, G. L. From the Swamp to the High Ground and Back. Army Sustain. 43, 50–55 (2011).

70.   . Bennett, NathanLemoine, G. J. What a difference a word makes: Understanding threats to performance in a VUCA world. Bus. Horiz. 57, 311–317 (2014).

71.   Free, M. Managing Change, Changing Management. Prod. Mach. 9, 13–14 (2009).

72.   Martin, R. Strategy in a VUCA world: An interview with Roger Martin, author of Playing to Win: How Strategy Really Works. Strateg. Dir. 29, 32–34 (2013).

73.   Johansen, B. & Euchner, J. Conversations: Navigating the VUCA World: An Interview with Bob Johansen. Res. Manag. 56, 10–15 (2013).

74.   Bouée, C.-E. Leading in uncertain times: An interview with CharlesEdouard Bouée, Chief Operating Officer, Roland Berger Strategy Consultants, and author of Light Footprint Management. Strateg. Dir. 30, 31–33 (2014).

75.   Lavine, M. Paradoxical Leadership and the Competing Values Framework. J. Appl. Behav. Sci. 50, 189–205 (2014).

76.   Lewis, M. W. Exploring paradox: toward a more comprehensive guide. Acad. Manag. Rev. 25, 760–776 (2000)..

77.   Lewis, M. W. Multiparadigm inquiry: Exploring organizational pluralism and paradox. Hum. Relations 55, 251–275 (2002).

78.   Lewis, M.W.A1Dehler, G. E. A. Learning Through Paradox: A Pedagogical Strategy For Exploring Contradictions And Complexity. J. Manag. Educ. 24, 708–725 (2000).

79.   Lewis, M. & Smith, W. Paradox as a Metatheoretical Perspective. J. Appl. Behav. Sci. 50, 127–149 (2014).

80.   Smith, W. & Lewis, M. W. Leadership skills for managing paradoxes. Ind. Organ. Psychol. Perspect. Sci. Pract. 5, 227–231 (2012).

81.   Lewis, M. W., Andriopoulos, C. & Smith, W. K. Paradoxical Leadership to Enable Strategic Agility. Calif. Manage. Rev. 56, 58–77 (2014).

82.   Lindborg, H. J. Curbing Career Fears. Qual. Prog. 43, 52–53 (2010).

83.   Johansen, B. & Voto, A. Leadership Skills to Thrive in the Future. People Strateg. 36, 4–6 (2013).

84.   Winn, B. Powerful Leaders and Punishment in the Workplace: Does Might Make Right? People Strateg. 36, 9–11 (2013).

85.   Martin, R. Opening up the boundaries of the firm. Rotman Manag. Winter 201, 4–9 (2012).

86.   Cangemi, J. P. et al. Successful leadership practices during turbulent times. J. Manag. Dev. 30, 30–43 (2011).

87.   McCarthy, A. Leading During Uncertainty and Economic Turbulence. Adv. Dev. Hum. Resour. 16, 54–73 (2014).

88.   Lewis, S. Positive Adaptive Leadership and Key Principles of Practice in a Time of Uncertainty. AI Pract. 16, 20–24 (2014).

89.   38. Strom, D. L., Sears, K. L. & Kelly, K. M. Work Engagement: The Roles of Organizational Justice and Leadership Style in Predicting Engagement Among Employees. J. Leadersh. Organ. Stud. 21, 71–82 (2013).

90.   Betof, E., Owens, L. & Todd, S. The Key to Success in a VUCA World. Train. Dev. 68, p38–43 (2014).

91.   Liker, J. The Toyota Way. McGraw Hill (2004).

92.   Tilley, M. Can Anyone Really Have All The Leadership Skills Needed? People Strateg. 36, 7–8 (2013).

93.   Ohanian, A. (AUTHOR). Leading in a VUCA world. Train. J. 19–23 (2012).

94.   Gladwell, M. The Tipping Popint - how little things can make a big difference. (Back Bay Books, 2002).

95.   Lane, D. A. & Down, M. The art of managing for the future: leadership of turbulence. Manag. Decis. 48, 512–527 (2010).

96.   Amar, A. D., Hentrich, C., Bastani, B. & Hlupic, V. How managers succeed by letting employees lead. Organ. Dyn. 41, 62–71 (2012).

97.   Archer, D. & Cameron, A. Tough times call for collaborative leaders. Ind. Commer. Train. 41, 232–237 (2009).

98.   Segal, S. A Heideggerian Perspective on the Relationship Between Mintzberg's Distinction Between Engaged and Disconnected Management: The Role of Uncertainty in Management. J. Bus. Ethics 103, 469–483 (2011).

99.   Davis, R. Leading through uncertainty. Lead. to Lead. 2014, 57–62 (2014).

100.   Mosley, C. & Matviuk, S. Impact of Leadership on Identifying Right Organizational Designs for Turbulent Times. IUP J. Soft Ski. 4, 57–67 (2010).

101.   Cicero, L., Pierro, A. & van Knippenberg, D. Leadership and Uncertainty: How Role Ambiguity Affects the Relationship between Leader Group Prototypicality and Leadership Effectiveness. Br. J. Manag. 21, 411–421 (2009).

102.   Gechman, A., Rush, J. & Bunker, K. Your LD Strategy. Leadersh. Excell. 29, 7 (2012).

103.   Todd, S. LD Programs. Leadersh. Excell. 27, 12 (2010).

104.   Swarbrick, A. & Stearman, C. When it's VUCA, who do you call? Train. J. 47–51 (2012).

105.   Cascio, W. F. Investing in HRD in uncertain times now and in the future. Adv. Dev. Hum. Resour. 16, 108–122 (2014).

106.   Sheehan, M. Investment in training and development in times of uncertainty. Adv. Dev. Hum. Resour. 16, 13–33 (2014).

107.   Gill, R. Leadership in public services and the private sector: a comparison and the implications for handling crises and emergencies. Int. J. Leadersh. Public Serv. 5, 20–26 (2010).

108.   Abrami, P. C., Bernard, R. M., Borokhovski, E., Wade, A., Surkes, M. A., Tamim, R., & Zhang, Dai. (2008). Instructional interventions affecting critical thinking skills and dispositions: A stage 1 meta-analysis. Review of Educational Research, 78(4), 1102–1134.

109.   Bailin, S. (2002). Critical thinking and science education. Science & Education, 11(4), 361–375.

110.   Bailin, S., Case, R., Coombs, J. R., & Daniels, L. B. (1999). Conceptualizing critical thinking. Journal of Curriculum Studies, 31(3), 285–302.

111.   Bonk, C. J., & Smith, G. S. (1998). Alternative instructional strategies for creative and critical thinking in the accounting curriculum. Journal of Accounting Education, 16(2), 261–293.

112.   Brown, A. L. (1990). Domain specific principles affect learning and transfer in children. Cognitive Science, 14, 107–133.

113.   Case, R. (2005). Moving critical thinking to the main stage. Education Canada, 45(2), 45–49.

114.   Cross, D. R., & Paris, S. G. (1988). Developmental and instructional analyses of children's metacognition and reading comprehension. Journal of Educational Psychology, 80(2), 131–142.

115. Dillenbourg, P., Baker, M., Blaye, A., & O'Malley, C. (1996). The evolution of research on collaborative learning.

116. E. Spada & P. Reiman (Eds.), Learning in humans and machine: Towards an interdisciplinary learning science (pp. 189–211).

117. Oxford, England: Elsevier. Ennis, R. H. (1985). A logical basis for measuring critical thinking skills. Educational Leadership, 43(2), 44–48.

118. Ennis, R. H. (1989). Critical thinking and subject specificity: Clarification and needed research. Educational Researcher, 18(3), 4–10. CRITICAL THINKING 46

119. Facione, P. A. (1990). Critical thinking: A statement of expert consensus for purposes of educational assessment and instruction. Millbrae, CA: The California Academic Press.

120. Facione, P. A. (2000). The disposition toward critical thinking: Its character, measurement, and relation to critical thinking skill. Informal Logic, 20(1), 61–84.

121. Fischer, S. C., Spiker, V. A., & Riedel, S. L. (2009). Critical thinking training for army officers, volume 2: A model of critical thinking. (Technical Report).

122. Arlington, VA: U.S. Army Research Institute for the Behavioral and Social Sciences. Flavell, J. H. (1979). Metacognition and cognitive monitoring: A new area of cognitivedevelopmental inquiry. American Psychologist, 34(10), 906–911.

123. Gellin, A. (2003). The effect of undergraduate student involvement on critical thinking: A metaanalysis of the literature 1991–2000. Journal of College Student Development, 44(6), 746–762.

124. Gelman, S. A., & Markman, E. M. (1986). Categories and induction in young children. Cognition, 23, 183–209.

125. Halonen, J. S. (1995). Demystifying critical thinking. Teaching of Psychology, 22(1), 75–81.

126. Halpern, D. F. (1998). Teaching critical thinking for transfer across domains: Dispositions, skills, structure training, and metacognitive monitoring. American Psychologist, 53(4), 449–455.

127. Halpern, D. F. (2001) Assessing the effectiveness of critical thinking instruction. The Journal of General Education, 50(4), 270–286.

128.   Hennessey, M. G. (1999). Probing the dimensions of metacognition: Implications for conceptual change teaching-learning. Paper presented at the annual meeting of the National Association for Research in Science Teaching, Boston, MA. CRITICAL THINKING 47

129.   Heyman, G. D. (2008). Children's critical thinking when learning from others. Current Directions in Psychological Science, 17(5), 344–347.

130.   Heyman, G. D., & Legare, C. H. (2005). Children's evaluation of sources of information about traits. Developmental Psychology, 41(4), 636–647.

131.   Jaswal, V. K., & Neely, L. A. (2006). Adults don't always know best: Preschoolers use past reliability over age when learning new words. Psychological Science, 17(9), 757–758.

132.   Kennedy, M., Fisher, M. B., & Ennis, R. H. (1991). Critical thinking: Literature review and needed research.

133.   Idol & B.F. Jones (Eds.), Educational values and cognitive instruction: Implications for reform (pp. 11-40). Hillsdale, New Jersey: Lawrence Erlbaum & Associates.

134.   Koenig, M. A., & Harris, P. L. (2005). Preschoolers mistrust ignorant and inaccurate speakers. Child Development, 76(6), 1261–1277.

135.   Ku, K. Y. (2009). Assessing students' critical thinking performance: Urging for measurements using multi-response format. Thinking Skills and Creativity, 4(2009), 70–76.

136.   Kuhn, D. (1999). A developmental model of critical thinking. Educational Researcher, 28(2), 16–26.

137.   Kuhn, D., & Dean, D. (2004). A bridge between cognitive psychology and educational practice. Theory into Practice, 43(4), 268–273.

138.   Kuhn, D., & Pearsall, S. (1998). Relations between metastrategic knowledge and strategic performance. Cognitive Development, 13, 227–247.

139.   Lewis, A., & Smith, D. (1993). Defining higher order thinking. Theory into Practice, 32(3), 131–137. Lipman, M. (1988). Critical thinking—What can it be? Educational Leadership, 46(1), 38–43.

140.   Lutz, D. J., & Keil, F. C. (2002). Early understanding of the division of cognitive labor. Child Development, 73(4), 1073–1084.

141.   Martinez, M. E. (2006). What is metacognition? Phi Delta Kappan, 87(9), 696–699.

142.   McPeck, J. E. (1990). Critical thinking and subject specificity: A reply to Ennis. Educational Researcher, 19(4), 10–12.

143.   Moss, P. A., & Koziol, S. M. (1991). Investigating the validity of a locally developed critical thinking test. Educational Measurement: Issues and Practice, 10(3), 17–22.

144.   Nelson, C. E. (1994). Critical thinking and collaborative learning. New Directions for Teaching and Learning, 1994(59), 45–58.

145.   Nickerson, R. S. (1988). On improving thinking through instruction. Review of Research in Education, 15(1988–1989), 3–57.

146.   Norris, S. P. (1989). Can we test validly for critical thinking? Educational Researcher, 18(9), 21-–26.

147.   O'Hare, L. O., & McGuinness, C. (2009). Measuring critical thinking, intelligence, and academic performance in psychology undergraduates. The Irish Journal of Psychology, 30(3–4), 123–131.

148.   Paul, R. W. (1992). Critical thinking: What, why, and how? New Directions for Community Colleges, 1992(77), 3–24.

149.   Paul, R. W., & Elder, L. (2006). Critical thinking: The nature of critical and creative thought. Journal of Developmental Education, 30(2), 34–35.

150.   Perkins, D. N., Allen, R., & Hafner, J. (1983). Difficulties in everyday reasoning. In W. Maxwell (Ed.), Thinking: The frontier expands (pp. 177–189). Hillsdale, New Jersey: Lawrence Erlbaum & Associates.

151.   Pithers, R. T., & Soden, R. (2000). Critical thinking in education: A review. Educational Research, 42(3), 237–249.

152.   Schraw, G., Crippen, K. J., & Hartley, K. (2006). Promoting self-regulation in science education: Metacognition as part of a broader perspective on learning. Research in Science Education, 36 (1-2), 111–139.

153.   Silva, E. (2008). Measuring Skills for the 21st Century [Report]. Washington, DC: Education Sector. Retrieved from

Sternberg, R. J. (1986). Critical thinking: Its nature, measurement, and improvement National Institute of Education. Retrieved from http://eric.ed.gov/PDFS/ED272882.pdf.

155.   Stipek, D. J. (1996). Motivation and instruction. In D. C. Berliner & R. C. Calfee, (Eds.), Handbook of Educational Psychology (pp. 85–113). New York, NY: Macmillan. Thayer-Bacon, B. J. (2000).