Overview of Thinking Tools and Techniques

These resources are offered with the adoption of assessment services

The Culture of Thinking in your Organization - Use this tool to assess the culture of thinking and decision-making that is characteristic of your organization. Consider how prevalent these manifestations of strength in thinking and decision making can be found in various working groups and in overall expectations. These characteristics can be difficult to achieve, but they are the hallmark of strong thinking organizations both in the leadership and in the membership. These ideas apply to all types of organizations: business, health sciences, education, defense, security, commerce.

Perspectives that Influence Thinking and Knowing - This tool describes seven different ways that individuals see the world. These varying perspectives have a profound effect on how a person interprets new information, identifies problems (or fails to), and determines how or whether the problems can be solved. Effective training programs aimed at reasoning and decision making skills and mindset account for the variation of knowledge perspectives present in the training group.

Critical Thinking: What it is and Why It Counts an essay written by Dr. Peter Facione, a leading authority in critical thinking. This essay is periodically updated to capture new findings and discussion points to help trainees explore the domain of critical thinking in all aspects of life and work. Author and the publisher hold copyright, ISBN 13: 978-1-891557-07-1. Permission is granted for paper, electronic, or digital copies to be made in unlimited amounts for purposes of advancing education and improving critical thinking, provided that distribution of copies is free of charge and properly cited when extracted in whole or in part.

Techniques for Trainers of Reasoning Skills and Decision Making Use these techniques to strengthen the training strategies you currently use to improve thinking skills and mindset in your trainee and student groups. Apply these strategies to all training exercises where the goal is to improve thoughtful problem identification and reflective decision making. Reflecting periodically on these three directives will offer you insights about your current best training practices and help you to focus your training efforts on critical thinking across content domains and educational contexts.

Question Asking Skills: A Leadership Training Tool- Asking clear and relevant questions is an essential leadership skill. Well focused questions gather important information, identify unspoken assumptions, clarify issues and explore options. Question asking is key in unfamiliar and uncertain problem situations. Building questioning skills is an important part of training thinking skills. Certain questions are associated with certain reasoning and decision skills.

"Snap Judgments – Risks and Benefits of Heuristic Thinking" There are two important systems at work in human thinking and decision making. One is a highly reflective judgment process (referred to often as 'System Two') and the other ('System One') is an heuristic process that relies on previous learning and sensory input. Both systems are at work all the time. Both systems are valuable to survival, and they check and balance each other when humans think well. Both need to be monitored for error to prevent poor decision making and lost opportunity. This material describes System One and cautions against common errors that occur in System One thinking. These pages are extracted from THINK Critically, Facione & Gittens, Pearson Education (3rd. edition) and offered here with the author's permission.

Training Session Feedback Form - This tool is intended to function as both a self-evaluation tool for the trainee and as an evaluation of the training program itself for its ability to engage the learner as intended. Completing the feedback form guides the trainee to reflect specifically on their thinking experience related to the learning opportunity. Responses for each of the individual items are informative, and as a collection they serve as a subjective report of the trainee's engagement in the embedded training exercises aimed at improving thinking skills and mindset. This is not a direct measure of the objective quality of strength or weakness of the trainee's actual critical thinking ability.

Strong Critical Thinking in Groups is designed to trigger and augment the benefits of strong critical thinking that occurs in groups during projects, discussions or presentations. This one page tool guides evaluation of the quality of the thinking and decision making demonstrated by the group process. When used as a rating tool by someone evaluating the group process (perhaps as a leadership exercise), the rater is asked to explain the basis for his or her ratings of the group's work in framing and analyzing the problem, and formulating solutions. When used as a self-evaluation, this tool assists group participants to reflect on the quality of the thinking and problem solving just completed and marks the beginning of the evaluation of decisions made.

The *Holistic Critical Thinking Scoring Rubric* (HCTSR) is a rating tool that can be used to assess the quality of thinking in a spoken presentation or a written report/text. Apply the HCTSR when the presenter is required to be explicit about their thinking process or their reasons for advice given or decisions made. It can be used in any training program or evaluation process. Its greatest value is obtained when used by trainers to set expectations for written reports that require an evidence based recommendation or evaluation process. The clearly described criteria assist the trainee to internalize the characteristics of strong and weak critical thinking. The HCTSR is designed for developmental assessment, not for high stakes summative assessment. Train the raters well to make consistent and accurate ratings (judgments) about the evidence of critical thinking that they are observing and evaluating.

Designing A Study of Workplace Productivity - Use this tool to infuse strong reasoning and decision making into studies of workplace conditions or as an example of how strong thinking and decision skills are embedded in each step of an a well-designed investigation. Well-designed studies provide trustable information, poorly designed studies do not. This example examines factors that are believed to impact productivity. The same process could be used to study the variables that influence innovation.

Evaluating Written Argumentation (REWA) is designed to provide detailed feedback on written material intended to argue persuasively on behalf of a given claim, opinion, or recommendation. REWA addresses eight different aspects of sound and effective writing: Purpose and Focus, Depth of Thought, Thesis, Reasoning, Organization, Voice, Grammar and Vocabulary, and Mechanics of Presentation. REWA presents the criteria for effective written communication. 'Highly Developed' writing (leftmost column) describes the desired performance in each area and 'Developed' writing describes a minimal standard for effective communications. Lesser ratings detail degrees of error or shortcoming.

The Reflective Log – Critical thinking is vital to your success in life and work. It's worth developing strong thinking skills. This critical thinking tool is intended to give structure and focus to journaling by students or trainees to integrate their insights about their thinking and decision making. Metacognition is trained through reflective writing. This version of the exercise, aimed at the undergraduate or novice professional, is easily adapted for use in other populations. Use the Reflective Log to coach trainee' self-monitoring and self-correction skills.