This piece offers concise descriptions and instructions on basic tools for facilitating decision-making processes. The information draws from the literature on creative problem solving, especially Hurson’s *Think Better* (Boston: McGraw-Hill, 2008), Isaksen, Dorval, and Treffinger’s *Creative Approaches to Problem Solving*, third edition (Los Angeles: Sage Publishing, 2011), and Parnes’s *A Facilitating Style of Leadership* (Buffalo, NY: Creative Education Foundation, 1985), as well as from the wisdom and practice of facilitators from ThinkX Intellectual Capital and KnowInnovation. These texts place the tools in the framework of productive, innovative thinking and are recommended. Preceding the description of tools is an overview of the approach offered by creative problem solving for addressing open-ended challenges or opportunities, ones having multiple solutions.

**Overview of creative problem solving**

Creative problem solving (CPS) uncovers the optimal solution—the “global” best, rather than a “local” best, if the procedure were viewed as a graphical fitting routine—through a process that invites full and equitable participation of all persons engaged in the deliberations, thereby diminishing likelihood of participants’ perceiving unfairness or injustice. CPS clarifies the challenge, forges a solution, and develops an implementation plan through alternating divergent and convergent phases of thought. During the divergent phase, a maximally broad range of ideas is generated, and during the convergent phase, ideas are evaluated affirmatively and generatively to yield the optimal one. To create these two phases of thought, CPS relies upon certain tools that prompt the generation of ideas, as well as others that aid in evaluating and converging on the best one. In making thinking explicit and visible and in giving equal “voice” to all participants, the tools engender a sense of broad ownership throughout the group and lessen the likelihood of participants’ perceiving an injustice, as commonly occurs when individuals feel a loss of control during a process of change (ref on organizational injustice).

While bringing all participants into the decision process, CPS asks of them two critical things: suspending judgment during the divergent phases of thought, and judging affirmatively and generatively during the convergent phases. For some groups, a simple mention of these two obligations is sufficient for productive collaboration. For others, additional measures might be needed. For example, a group might collectively formulate a code of teamwork by which members commit to practices such as judging affirmatively and criticizing (constructively) ideas and suggestions, not the people who offered them … (ref – Smith). Alternatively, groups might do an exercise that brings to light differences among members in their social styles, ways of resolving conflicts, or methods of problem solving (e.g., see Basadur, Graen, and Wakabayashi’s Identifying individual differences in creative problem solving style. *Journal of Creative Behavior* 24 (2): 111-131, 1990; see also Kirton’s Adaptors and innovators: a description and measure. *Journal of Applied Psychology* 61 (5): 622-629). Inherent in such exercises is one of the key ideas lying at the heart of liberal arts education: the importance of bringing multiple approaches and perspectives to bear on a problem (see AAC&U VALUE Rubrics), with the consequence that no single lens allows full sight of either the problem or its solution. Empathy comes into play, too, and an excellent resource for reminding group members to listen empathetically is a five-minute, poignant video prepared by the Cleveland Clinic: (<http://www.youtube.com/watch?v=cDDWvj_q-o8>).
Tools
The tools generally promote either divergent or convergent thinking and are identified in this manner; however, several, e.g., Ladder of Abstraction, defy this simple categorization. A description of tools frequently used in CPS follows. Many of these tools can be used at multiple points in the problem-solving process with different aims, from exploring the situation to clarifying the challenge to forging the solution and implementing it.

Exploring a situation through 5 Ws and H
Structuring the information needed to explore a situation, this tool prompts the following questions (Isaksen et al., 2011, pp 66-68; Hurson, 2008, pp 105-??):

| What? | What “bugs” you about the situation? What do you know about the situation? What might be done with greater efficacy or success? What is the vision? What has been previously tried? What are the perceived barriers and facilitators to improvement in the situation? What is at stake for the persons involved in the situation? |
| Why? | Why is the situation important to you? Why should others find importance in improving the situation, too? |
| Who? | Who is involved? Who might assist in improving the situation? Who might resist efforts at change? Who would benefit from improving the situation? Who might be adversely affected if a change process were initiated? |
| Where? | Where does the situation arise? |
| When? | When did the situation arise? |
| How? | How are you involved? How are others involved? How long has the situation existed? How does the situation impact you? How might improving the situation benefit others? |

Exploring the vision through wishful thinking, WIBNI
This divergent-thinking tool helps to illuminate the desired outcome, which once articulated creates an emotional pull on participants to carry through the problem-solving process. The tool asks for completion of the following: “Wouldn’t it be nice if …”, abbreviated as WIBNI. A complementary statement, one seeking to identify outcomes to be avoided (e.g., an outcome that violates core values or compromises key strengths), is WIBAI, “Wouldn’t it be awful if…”

Exploring the vision and success criteria through DRIVE (Hurson, 2008)
An acronym for Do, Restrictions, Investment, Values, and Essential Outcomes, DRIVE asks five questions, initially answered through divergent thinking:
What must the solution do?
What are the restrictions (i.e., what must be avoided)?
What can be invested (i.e., what is the extent of resources)?
Which values must be maintained by the solution?
What are the essential outcomes?

Converging through C5: cull, cluster, combine, clarify, and choose (Hurson, 2008)
This tool, especially in the clustering, combining, and clarifying aspects, invites users to consider the underlying principle and unifying theme; in so doing, the tool helps to convert the ideas of
individuals into shared, collaboratively produced ones of the group. The culling aspect might usefully be guided three other tools for convergent thinking, Hits, 4 Is, and ALUO.

Converging through Hits
Used in the converging phase, the Hits tool asks users to identify ideas that feel right, appeal in some way, or seem fascinating or relevant.

Converging through 4 Is: interest, immediacy, influence, and imagination
This tool, like a related one called I3 (Hurson, 2008), prompts users to consider whether an idea (e.g., a challenge or a potential solution) has immediacy and, in light of limited resources such as time and money, seems promising. The tool also explores whether users can influence either the challenge itself or implementation of the solution. Finally, the tool asks whether the situation is one to which multiple possible solutions could exist and hence suitable for creative problem solving.

Converging through ALUO: advantages, limitations, unique qualities, and overcoming limitations (Isaksen et al., 2011)
This tool asks four questions:
What are the idea’s advantages?
What are its limitations?
What are its unique qualities?
What are ways of overcoming important limitations?

Diverging through brainstorming

Diverging through brainwriting (Isaksen et al., 2011)

Ladder of abstraction (formalized by the late Senator Samuel Hayakawa)

Angel’s Advocate