

Addendum

Amarillo ISD GT Curriculum Scopes and Sequence

<p style="text-align: center;">Brainstorming Rules for Idea Production</p> <ol style="list-style-type: none"> 1. Defer judgment of ideas while they are being generated. 2. Push for unusual, unique ideas. 3. Produce as many ideas as possible from different categories. 4. Piggyback or hitchhike on ideas of others (combine or add to previous ideas). 5. Limit explanations of ideas. 	<p style="text-align: center;">Creative/Productive Thinking Skills</p> <p>Fluency – Many responses for a given situation. The focus is on quantity rather than quality. For example:</p> <ul style="list-style-type: none"> • List many ways to... • Think of several possible ways to... • Come up with ideas for... <p>Flexibility – Thinking in a variety of categories by shifting the mind while generating the ideas. For example:</p> <ul style="list-style-type: none"> • List many different kinds of ways to... • Think of different kinds of reasons for... • What are the different kinds of... <p>Originality – Expressing unusual or uncommon ideas that are relevant but away from the obvious. For example:</p> <ul style="list-style-type: none"> • Think of ideas no one else will think of. • Think of unique and unusual ways to... • Consider wild or outrageous ideas. <p>Elaboration – Adding details to a basic idea to make it more interesting and easier to understand. For example:</p> <ul style="list-style-type: none"> • Add supplemental ideas to make basic idea clearer. • Think of details to add to your main idea. • Add ideas to make your basic idea more interesting. <p>Evaluation – Weighing ideas in terms of desirability and undesirability. For example:</p> <ul style="list-style-type: none"> • List the things that you like and dislike about... • List the pros and cons of... • Choose criteria to help determine desirability.
<p style="text-align: center;">SCAMPER Techniques For Brainstorming</p> <p>Substitute – To have a person or thing act or serve in the place of another</p> <p>Combine – To bring together; to unite things or ideas; synthesize</p> <p>Adapt – To adjust for the purpose of suiting a condition or purpose</p> <p>Modify – To alter; change the form or quality.</p> <ul style="list-style-type: none"> • Magnify – To enlarge or make greater. • Minify – To make smaller, lighter, slower... <p>Put to Other Uses – To be used for purposes other than originally intended</p> <p>Eliminate – To remove, omit, or get rid of a quality, part, or whole</p> <p>Rearrange – To adjust or change the order; make a different plan, layout or scheme</p> <ul style="list-style-type: none"> • Reverse – To place opposite or turn around 	

CREATIVE PROBLEM SOLVING {based on the original work of Osborn (1963) and Parnes (1981)}

- Step 1: **Problem Awareness** – Students should identify the problem on their own
- Step 2: **Fact Finding** – relevant information of how, why, who, when, what, and where is gathered
- Step 3: **Defining the Problem** – in open-ended statement – I.W.W.M.W. stands for “In what ways might we...” and can be used to restate a problem. For example, trying to create a better mouse trap has more options for possible solutions if restated: In what ways might we get rid of rodents?
- Step 4: **Idea Finding** – to generate several possible solutions to the problem
- Step 5: **Solution Finding** – determine the best solution from the previously generated ideas. Prioritize solutions during this step.
- Step 6: **Acceptance Finding** – formulate a step-by step plan to implement the solution. Older students may develop a flow chart to detail this step.
- Step 7: **Implementation and Rethinking** – students execute their plan in real life, simulation, or in writing. Then students reflect upon changes they made in the plan and relate those changes.

While these 7 steps work together to expedite the problem solving process, fewer steps can be used when deemed more appropriate for the situation. At times, teachers may want to focus on only a few steps for a particular context. Remind students of the real-life application of creative problem solving by showing a clip from the movie Apollo 13 (1995). Discuss how creative solutions often involve using the familiar in unfamiliar or new ways.