12-2007

Exploration of the CPS (Plain Language) and Thinking Skills Models and Creating Two Visuals

Aryna Ryan
Buffalo State College

To learn more about the International Center for Studies in Creativity and its educational programs, research, and resources, go to http://creativity.buffalostate.edu/.

Recommended Citation
Ryan, Aryna, "Exploration of the CPS (Plain Language) and Thinking Skills Models and Creating Two Visuals" (2007). Creative Studies Graduate Student Master's Projects. 104.
http://digitalcommons.buffalostate.edu/creativeprojects/104
Exploration of the CPS (plain language)

and Thinking Skills Models

and Creating Two Visuals

by

Aryna Ryan

An Abstract of a Project

in

Creative Studies

Submitted in Partial Fulfillment

of the Requirements

for the Degree of

Master of Science

December, 2007

Buffalo State College
State University of New York
Department of Creative Studies
ABSTRACT OF PROJECT

Exploration of the CPS (plain language)
and Thinking Skills Models
and Creating Two Visuals

In this project I explored the connections between the CPS (plain language) and Thinking Skills models through literature. I also created two visuals, which were wall hangings made of fabric and accoutrements. These hangings were my interpretations of these two models and were evaluated for teaching Creative Problem Solving and facilitating CPS sessions.

Signature _____________________________               _________________

Date
Exploration of the CPS (plain language)

and Thinking Skills Models

and Creating Two Visuals

A Project in
Creative Studies

by

Aryna Ryan

Submitted in Partial Fulfillment
of the Requirements
for the Degree of

Master of Science

December, 2007
Exploration of the CPS (plain language)
and Thinking Skills Models
and Creating Two Visuals

A Project in
Creative Studies

by

Aryna Ryan

Submitted in Partial Fulfillment
of the Requirements
for the Degree of

Master of Science

December, 2007

Dates of Approval:

__________________________
Dr. Mary C. Murdock
Associate Professor

__________________________
Aryna Ryan
Candidate
Acknowledgements

First, I acknowledge my mentor, Leona (LeE) D. Brady, who was both a brainstorming buddy and an advisor on fabric choices and embroidery techniques.

Next, I thank my husband, Neil Battiste, who shepherded me through my first PowerPoint presentation, designed a maze to order and endured the chaos in the family room for months.

I extend a final thanks to my SBP (Sounding Board Partner) Cynthia Hedge, who gave her support, both academic and emotional, to me throughout the semester.
# Table of Contents

Section One: Background to the Project .................................................. 1  
  Introduction .................................................................................. 1  
  Rationale .................................................................................... 1  
  What project adds to creativity and others ........................................ 2  

Section Two: Pertinent Literature .......................................................... 3  
  Introduction .................................................................................. 3  
  Selected bibliography ................................................................... 3  

Section Three: Process Plan ................................................................. 5  
  Introduction .................................................................................. 5  
  Preliminary stages ........................................................................ 5  
  Timeline ........................................................................................ 6  
  Revised timeline .......................................................................... 7  

Section Four: Outcomes ....................................................................... 14  
  Introduction .................................................................................. 14  
  Wall hanging outcomes: CPS (plain language) Model ....................... 14  
  Wall hanging outcomes: Thinking Skills Model ............................... 26  

Section Five: Key Learnings ................................................................. 33  
  Introduction .................................................................................. 33  
  Process learnings ......................................................................... 33  
  Content learnings ......................................................................... 34  
  Creative skills and domain skills used ............................................. 40
Things that worked……………………………………………………………….. 42
Things to change………………………………………………………………… 43
Section Six: Conclusion…………………………………………………………… 44
Introduction…………………………………………………………………….. 44
What I see myself doing next…………………………………………………. 47
References………………………………………………………………………… 48
Section Seven: Appendices……………………………………………………… 49
Appendix A: Concept Paper…………………………………………………. 50
Appendix B: Drawings…………………………………………………………. 62
Appendix C: Photos……………………………………………………………… 73
Appendix D: Morning Pages' Excerpts.................................................... 79
Appendix E: Evaluations………………………………………………………… 93
Appendix F: Time Plot…………………………………………………………… 103
Appendix G: Quotations…………………………………………………………. 105
## List of Illustrations, Photos and Chart

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Figure 1</td>
<td>Illustration: Visual for CPS (plain language) Model</td>
<td>14</td>
</tr>
<tr>
<td>Figure 2</td>
<td>Illustration: Evolution of picture from dream</td>
<td>16</td>
</tr>
<tr>
<td>Figure 3</td>
<td>Illustration: Circles have transformed</td>
<td>16</td>
</tr>
<tr>
<td>Figure 4</td>
<td>Photo: One example of fabrics</td>
<td>17</td>
</tr>
<tr>
<td>Figure 5</td>
<td>Illustration: The Challenge globe</td>
<td>18</td>
</tr>
<tr>
<td>Figure 6</td>
<td>Photo: Fabric choices</td>
<td>18</td>
</tr>
<tr>
<td>Figure 7</td>
<td>Photo: Blue cones in Challenges, Ideas light bulb</td>
<td>19</td>
</tr>
<tr>
<td>Figure 8</td>
<td>Photo: Challenge maze</td>
<td>20</td>
</tr>
<tr>
<td>Figure 9</td>
<td>Photo: Final challenge maze</td>
<td>21</td>
</tr>
<tr>
<td>Figure 10</td>
<td>Photo: Finished light bulb</td>
<td>22</td>
</tr>
<tr>
<td>Figure 11</td>
<td>Photo: Plan-It with satellites</td>
<td>23</td>
</tr>
<tr>
<td>Figure 12</td>
<td>Photo: Final product of CPS (plain language) Model wall hanging</td>
<td>25</td>
</tr>
<tr>
<td>Figure 13</td>
<td>Illustration: Visual of Thinking Skills Model</td>
<td>26</td>
</tr>
<tr>
<td>Figure 14</td>
<td>Illustration: First drawing of TS Model</td>
<td>27</td>
</tr>
<tr>
<td>Figure 15</td>
<td>Illustration: First Thinking Fountain</td>
<td>29</td>
</tr>
<tr>
<td>Figure 16</td>
<td>Photo: Felt model of Asian Thinking Fountain</td>
<td>30</td>
</tr>
<tr>
<td>Figure 17</td>
<td>Illustration: Second Thinking Fountain</td>
<td>31</td>
</tr>
<tr>
<td>Figure 18</td>
<td>Photo: Seven felt thinking Fountain pockets</td>
<td>31</td>
</tr>
<tr>
<td>Figure 19</td>
<td>Photo: Final product of Thinking Fountain</td>
<td>32</td>
</tr>
<tr>
<td>Figure 20</td>
<td>Chart: Comparison of CPS (plain language) and TS models</td>
<td>39</td>
</tr>
</tbody>
</table>
Section One: Background to the Project

Introduction

My purpose in exploring the CPS (plain language) and Thinking Skills models was to understand at least two different approaches to Creative Problem Solving. By looking at these two models, I could see how CPS had been developed over time by different academics and practitioners.

I also wanted to build on my existing skills by creating visuals I could use when teaching CPS and leading CPS facilitations.

I explored the connections between the Creative Problem Solving model with the Thinking Skills model, found Creative Leadership: Skills That Drive Change (2007, Puccio, G., Murdock, M. & Mance, M.) and built upon drawings found in Creativity Unbound: An Introduction to the Creative Process (2001, Miller, B., Vehar, J. & Firestien, R.) to construct two visuals or wall hangings of the CPS (plain language) and Thinking Skills models from fabric.

Rationale for Selection

I selected this project because I love color, design and fabric. For years I have been attracted to fabric art. Two quilt exhibits especially influenced me. The first was a 1995 quilt show at Arizona State University. In this exhibit, 54 quilters were given one card each (jokers included) from a deck of regular playing cards and asked to interpret the card in fabric. The result was one of the most imaginative compilations of fabric art I'd ever seen. In May 2007 I visited the Gee’s Bend quilt exhibit at the Orlando Museum of Art. I loved these quilts made by the women of
Gee’s Bend because they took abstract art—one of my favorite styles—and expressed it in fabric.

The project I chose was also manageable—I could produce these visuals in the time allotted for this master’s project. I knew I had the experience and skill to accomplish the task, as well as enough challenge to keep me in the “flow” state Csikszentmihalyi described. (1990)

**What this project adds to creativity and to others**

In completing this project I got to be creative with fabric and accouterments and that was enjoyable. Simply doing this improved my life. As for improving others’ quality of life, I hope that by studying my two visuals, they will get to see how fluid and individualized the CPS process is and can be in solving their problems.

I can and will use my CPS and TS visuals to teach students about creativity. (I would not let these great visuals go to waste. And being made of fabric, they will be much more portable and durable than posters.) And of course I’ll also use the information I learned from *Creativity Unbound, Creative Leadership, Applied Imagination* and other sources in my teaching.
Section Two: Pertinent Literature

Introduction

The concept for this master’s project originated from the first five sources listed. For this reason, I separated them from the rest of the bibliography.

Alex Osborn pioneered the creative problem solving process, and introduced brainstorming to the world. The 1953 edition of Osborn’s *Applied Imagination* is difficult to locate; I own the 1963 third edition. Though Osborn’s first edition was written half a century ago, a clear connection exists between his explanation of creative problem solving compared to the CPS (plain language) and the Thinking Skills models, and their respective visuals.

As mentioned earlier, the CPS (plain language) model was developed by Miller et al. (2001).

The work of Gerard Puccio, Mary Murdock and Marie Mance led to the Thinking Skills model, presented in *Creative Leadership* (2007). Earlier, this model was compared to other CPS models in the Korean Journal of Thinking and Problem Solving (2005).

Selected Bibliography


**Quilt/fabric art magazines and books consulted**


Section Three: Process Plan

Introduction

In the concept paper I wrote up steps for creating the wall hangings. Truthfully, I have accomplished all five preliminary steps, all the CPS (plain language) model steps and the first two steps for the TS model.

Because of the resistance outlined in the revised timeline, I did not accomplish any of the Steps in Common on either wall hanging.

Preliminary Steps for Both Wall Hangings

- Get advice from all mentors.
- Decide on most optimum and workable size for the tapestries (probably 3’ X 3’).
- Enlarge CPS and TS model designs at Kinko’s. (Get at least three copies of the size chosen for each tapestry--one or two for cutting, extras for reference).
- Choose background fabrics and embroidery floss from my own supply.
- Buy: fusible fabric, muslin or strong backing fabric, extra fabric (calicos) and floss, thread, spinner material, two curtain rods or bamboo poles.

For Creative Problem Solving Model only:

1. Re-read pgs. 59-78 in Creativity Unbound.
2. Make final decision on colors for CPS model. (I’ll know I’ll use complementary secondary colors for the three circles on the CPS model.)
3. Decide which visuals to put in each circle. (Explore visuals on pgs. 64, 66, 68, 70, 72, 74, 76, & 78 of Creativity Unbound for inspiration.)
For Thinking Skills Model only:

1. Read *Creative Leadership*, paying particular attention to the sections on the Thinking Skills model.

2. Select final fabrics for TS model. (I've already settled on violet, lavender, and light green for this.)

Originally, I outlined a series of Steps in Common to utilize for both visuals; however, when I changed the project, none of those steps applied.

Truthfully, the original timeline and the final one bore no resemblance to each another. This was due to a realization on October 30 that I could not do the project as I originally conceived, which was to make exact copies of these two CPS models in fabric. I simply lost all motivation to work on my original idea, since it did not allow me to use any of my own ideas.

On November 4 Dr. Murdock gave me clearance to change the style of my project; that is, to create my own versions of the two models. She told me she actually preferred my new concept. As a result, however, I did 80% of the work on the wall hangings between November 4 and 28 (about 3 ½ weeks).

**Original timeline (Fall 2007)**

9/1 Diverged and came up with several ideas on wall hangings—Thinking Skills Model among them.

9/2 Discussed idea with Mary, chose to do visuals project.

Discussed model w/LeE.

Left message for Nancy re quilting advice.

9/3 Talked to Nancy & sent her e-mail w/TS diagram.
Her reply: this project would be better w/fusible fabric than quilting techniques. Even as an intermediate-to-high level quilter she was unhappy w/outcome of her quilted circles. Conclusion: no way as a beginner I could do better!

Discussed w/LeE embroidery of words on hanging.

e-mailed Linda too, who gave me some tips.

Did preliminary shopping for fabrics and got samples.

9/4-5  Wrote/posted CRS690 concept paper.

9/6  Awaited concept paper feedback.

   Enlarged TS model diagram (3 sizes) at Kinko's.

9/8  Bought fabrics for both CPS (plain language) & TS models.

9/9-9/30 Did steps in How I Plan to Achieve Goals or Outcomes.

10/1- 11/30 Worked on paper. Work more on wall hangings.

10/4  Did Project check-in. Phone call w/ Mary, Cindy and Daneen.

11/5  Project check-in w/Mary and Cindy.


12/4  Tweaked write-up (check APA style).

12/5  Posted in Angel's CRS 690 Mary drop box.

12/6  Mailed hard copy of write-up & CD to Mary.

Revised timeline (Fall 2007)

9/1  Diverged and came up with several ideas on wall hangings—Thinking Skills Model among them.

9/2  Discussed idea with Mary, chose to do this project.
Discussed model w/LeE. Left message for Nancy re quilting advice.

9/3 Talked to Nancy & sent e-mail w/TSM diagram. Her reply was that project would be better made w/fusible fabric than quilting techniques. (She is an intermediate-to-high level quilter and on 9/3Bsaid she was unhappy with the outcome of her quilted circles. Our conclusion was that no way as a beginner could I do better.)

Discussed w/LeE the embroidery of words on hanging.

Did preliminary shopping for fabrics and got samples.  

1 hour

9/4-5 Wrote/posted CRS690 concept paper.  

3½ hours

9/8 Bought fabrics for both CPS (Pln. Lang.) & TS models.  

1 hour

9/9 Enlarged TS model in three sizes at Kinko’s.  

¾ hour

9/15 Read Creative Leadership sections on TS model.  

1 hour

9/16 Bought more fabric for TS model.  

1 hour

9/22 Bought and read two quilting & fabric art magazines.  

1½ hours

9/23-10/13 Went on Artist Dates, read CPS literature, wrote Morning Pages, but did no cutting or sewing on wall hangings.

10/14 Bought Quilting Arts Magazine & read. (Loved cover design—wanted to use something similar in my visuals.)  

½ hour

10/14 Had resistance, resistance, RESISTANCE to this project. I tend to work best under pressure (and to deadlines), but this was something else. What was going on? Drew sketch of TS model, but it was completely unsatisfactory. Explored my resistance in MPs, but no answers—yet.
10/28  Ironed fabrics. Still felt really stuck on this project--excited me as much as running a sewing machine needle through my finger!  

1½ hours

10/29  Before falling asleep asked for answer regarding my resistance.

10/30  Had nightmare of small boy, clearly my child self, who was locked in a closet, screaming to get out. I was frantic to help but couldn’t. Found a bunch of old-fashioned keys. Selected one and knew it was the one to open door, but woke before I could use it. Nightmare was truly disturbing. I interpreted it to mean that I couldn’t do this project at all or at the very least, I couldn’t do it the way I’d planned in my concept paper. Discussed dream w/mentor LeE. She said to simply make the hangings differently.

Called SBP Cindy to ask her advice. (Not sure I can change my project at this late date.)

Read Zen and the art of needlecrafting; marked some quotes. 2½ hours

10/31  Sent e-mail to Mary on Angel asking for a phone discussion.

11/1  Sent a regular e-mail to Mary re discussion.

Bought two bamboo rods at 10,000 Villages. ½ hour

10/31  In my head (& in MPs) reworked style of project (from duplicates to abstract/non-representational style).

Discussed proposed change with LeE and Cindy.

10/31  LeE suggested using small-gauge chicken wire to “push” fabrics through to make 3-D effect for 3 circles in CPS (Pln. Lang.) visual.
Liked idea and will use it somehow, but not for all 3 circles. Also suggested throwing fabrics in air and allowing to land, then create from that (an idea variation I learned from a quilter).

11/3 Left phone messages for Mary at BSC & at home. No matter her response, felt greatly relieved at idea of changing style of project. Somehow planned to make change of style work. Reviewed my concept paper & discussed w/Neil. Realized I never stated the style of hangings, which was only aspect I’d be changing. It was a HUGE change for me, but wouldn’t alter the original concept.

11/4 Discussed proposed style change with Mary by phone. Not only was She’s fine, she preferred it. We agreed crafting two models exactly like the materials wouldn't accomplish much.

11/5 In meditation “saw” first plain language design. Drew design.(photo) ¼ hour
Wrote, submitted 11-5-07 write-up (draft of sections 1-3). 4 hours

11/6 Shopped for batik fabric I saw in meditation & fabrics I’d need. 1 hour Visualized changes in Pln. Lang. design---heart is moved from center of hanging to Exploring Challenge section.

11/7 Cut yarn and fabric strips. 2 hours Began latch hooking circle. (photo) ¾ hour
Drew TS model diagram. (photo) ¼ hour

11/8 Ironed fabrics. 1 hour
Cut 3 circles for CPS Pln. Lang. hanging. (photo) 1½ hours
Experimented w/blue circle for globe. ¾ hour

Experimented w/fabrics for heart. (photo) ½ hour

11/9 Latch hooked yellow circle; it evolved into light bulb. (photo) 1½ hours

11/10 Latch hooked on bulb. 1 hour

11/11 Made blue binoculars, red arrows,

11/12 Latch hooked light bulb. 1¼ hours

11/13 Cut more yellow fabrics & yarn. Latch hooked bulb. (photo) 3 hours

11/14 Listed order of slides for PowerPoint presentation ¼ hour

   Embroidered “thinking”; it puckered fabric! (photo) 3 hours

11/15 Latch hooked light bulb. 2 hours

11/16 Measured, cut, pinned & sewed both batiks to backing;

   made rod pockets for both. (photos) 4 hours

11/17 Changed TS heart & trees motif to thinking fountain.

   Made rock and fountain templates; cut felt w/templates. 2½ hours

   Experimented with Asian fountain. (photo) 2 hours

   Ideated using traditional fountain design w/tiers (basins).

11/18 Drew tiered fountain design. (photo) ¼ hour

   Cut rubber ball in half; glued on 1st layer of yarn. 1 hour

   Glued gold base to light bulb. (photo) 2 hours

   Worked on sections 3-6 write-up (appendices). 3½ hours

11/19 Ordered TS model enlarged on poster board. ½ hour
(Note: Had this poster made to match CPS Pln. Lang. poster. Now posters can be compared to two original models w/my interpretative wall hangings.)

Wrote & posted sections 4-6 of write up.  
7½ hours

11/20 Cut 7 pockets & 14 raindrops from felt.  
1½ hours
Glued 2nd layer of yarn on ball.  
1 hour

11/21 Cut templates for fountain basins. (photo)  
1 hour
Cut felt using templates.  
¾ hour
Adjusted light bulb to be more symmetrical.  
2 hours
Cut gold heart.  
¼ hour

11/24 Added glitter to “raindrops.”  
3 hours
Picked up TS poster.  

Glued orbit and rubber ball for Plan-It section. (photo)  
1½ hours
Arranged fountain tiers. (photo)

11/25 Worked on PowerPoint slide show.  
1 hour
Worked on appendices.  
3 hours
Arranged & glued maze. (photo)  
1¼ hours
Shredded charcoal & blue chiffon “water.”  
1¼ hours
Glued batting under basin. (photo)  
½ hour
Glued ribbon on pockets. (photo)  
1 hour

11/26 Worked on PP slide show.  
2 hours

11/27 Drew, cut & glued letters. (photos)  
3½ hours
Made creative license & flower. (photo)  
2 hours
Cut purple & white chiffon “water.”  
Cut fabric leaves, hearts, ? mark.  

11/28 Tweaked both visuals. (photos)  

11/29 Completed & posted PP slide show.  

12/1 Wrote evaluation form--got 1st evaluation.  

12/3-5 Gathered five more evaluations.  

12/2-5 Worked on write-up.  
   Scanned evaluations.  
   Completed appendices.  

12/5 Posted write-up to Mary.  

12/6 Copied write-up. Mailed write-up w/CD(s) to Mary.  

Total: 134 hours
Section Four: Outcomes

Introduction

This section contains a report of the outcomes from the project. The concept for my Master’s Project was to create two wall hangings based on two CPS Models: Plain Language and Thinking Skills. To document these outcomes I am including drawings and photos of the process and the final products in the text (with additional drawings and photos in Appendices C & D.)

CPS (plain language) Model: Wall Hanging Outcomes

Originally, my concept was to base the wall hanging exactly on the CPS (plain language) Model. I was simply going to recreate the following visual (2001, Miller et al.) with fabric and embroidery.

![Figure 1. Visual for CPS (plain language) Model](2001, Miller, Firestien & Vehar)
By mid-semester I realized I had no heart for simply copying this model in fabric.

After conversations with my mentor LeE and my buddy Cindy, I reached Dr. Murdock, who agreed that I could create my own interpretation of the CPS (plain language) Model. Subsequently, I envisioned three circles “holding hands”. The first circle was a blue globe to represent **Exploring the Challenge**, the uppermost hand holding onto the closest hand from the second circle, which was made of yellow bits to represent **Generating Ideas**. This circle stretched out its lower hand to the red circle below it, which contained a to-do list signifying **Prepare for Action**. The red circle completed the circuit by extending its left hand to the blue globe.

Before I could draw this visual, however, it evolved into the image in Figure 2. This figure showed one hand from each circle holding an object that represented its aspect of the problem solving process. I recalled that in *Creativity Unbound* (2001, Miller et al.) a bird watcher represented the Gather Data subset of **Exploring the Challenge** (p. 70). This image led to the idea of utilizing a globe for this initial phase of the CPS (plain language) process. Subsequently, I added binoculars to the hand above the globe. Then I pictured an actual pad of Post-Its (yellow, of course!) in the hand that extended below the **Generate Ideas** circle. Finally, a red medal, representing completion, fit in the hand stretching from the **Prepare for Action** circle to the globe. Now the circles created an all-encompassing circle.

Although I cut out three fabric circles I was not done ideating. The circles
Evolved into new shapes. I liked the notion of using individual motifs for each phase of the plain language model.

Eventually, the Exploring the Challenge circle shifted to a magnifying glass and the Generate Ideas circle became a light bulb composed of hundreds of yellow and gold fabrics. The Prepare for Action section did not change significantly. The only addition was an “arrow arc” with the words “now, soon, later” situated above the to-do list.
I wanted an image to connect all three of these phases of problem solving. The phrase "getting to the heart of the problem" kept recurring. So I played with different colors and fabrics to achieve the best layout for this heart. (Figure 4)

Incidentally, in my original dream about the plain language model, I “saw” the three circles resting on a brown background. I ignored this dream when I bought a lavender batik for the background. The night after I bought the lavender, I had another dream about a brown fabric. This time I paid attention and found an olive brown batik. This color made a world of difference; it set off the blue, yellow and red beautifully. In Figure 5 not much has changed in the Generate Ideas and Prepare for Action sections. For Ideas, all I did was add a gold base to the light bulb. In the Action section I surrounded the word “PLAN” with four red arrows imprinted with “What? Who? By When?” and “Who Helps?” I was still deciding on fabrics. I had drawers full in my craft room and was still searching in fabric aisles. I’d heard once on a quilting show that dropping fabrics in heaps could help make
a final selection. My mentor suggested a twist on this technique—she told me to toss fabrics and see how they looked after landing! I chose to ironed fabrics instead and drape them over a quilt rack.

Figure 5.
Challenge with globe w/big binoculars)
Ideas yellow circle evolved into a light bulb; the Action phase now had four red arrows.

(See enlargement on page 65 in Appendix B.)

Figure 6.
Fabric choices for both visuals. I ended up only using the yellow.
Meanwhile, I began tweaking the drawing in Figure 5, playing with fabrics and other objects to find the best design for each phase. (see Figure 7) I had the light bulb for Ideas; now I wanted different shapes for the other phases. For the Challenge phase I tried cones, and added an orange-yellow fabric behind the light bulb Ideas phase. Not much changed with Action. Apparently I wasn’t prepared to act!

As a high Ideator, I knew I needed to shift out of generating ideas and get into action. I needed to try out my ideas. First, for the Challenge section, I made binoculars from two cardboard tubes and covered them in blue construction paper. To demonstrate the to-do list in Action I rolled red and maroon felts into a scroll and cut out an arched arrow and four short arrows, all from red paper.

Still, I wasn’t fully satisfied with the visuals for Challenge or Action. Even with all my tweaking, bending and shaping, the globe idea seemed trite. I wanted fresher concept. By this time, I’d shifted “the heart of the problem” slogan to the Challenge section instead of in the center of the three motifs. I chose to put it

Figure 7.
Challenge blue cones, Ideas light bulb, and other fabrics tried out for the heart.
here because in Exploring the Challenge the Client discovers “the heart of the problem.”

I had already imagined a solar system motif for the Action section, but I couldn’t use it if I kept the globe—a circular shape—in the Challenge phase. I felt I needed to use either similar motifs in all three phases or unique ones. I wasn’t comfortable using two matching ideas and one misfit.

**Explore the Challenge**

Putting my brain in relaxed mode, I brainstormed abundantly. I kept returning to the “heart of the problem” as the central idea. “What,” I asked myself, “has a center that needs to be gotten into, a place where I could put a heart?”

I don’t recall how or when I got the idea of a maze, but I knew immediately this was the image that I’d been searching for. Maybe I was drawing on personal history. In 2002, my husband Neil and I created a labyrinth from rocks and sand behind our house our California house.

Being an engineer, Neil was better suited to design our labyrinth; I took over construction duty and placed rocks. When we walked this labyrinth, we ended up

![Figure 8. Maze drawing for Challenge section.](image)
in the center facing a magnificent mountain view.

In the Minotaur myth, Ariadne gave the hero Theseus a length of thread or yarn to help him find his way out of a convoluted labyrinth. So I’d make my maze from yarn!

Figure 9.
The Challenge yarn maze as it appears on the finished wall hanging. I changed the red heart to gold for the center. (The slogan “get to the heart” is underneath.)

I was very fortunate to find a blue-green vari-colored yarn for the maze. And though I originally intended to follow Neil’s design, I discovered while playing with the yarn that it fell naturally into a sort of tangled “jungle.” (See Figure 9.) I liked this variation so much that I eagerly abandoned the linear labyrinth model. (Sorry, Neil.)

Generate Ideas

I never changed the Generating Ideas motif--- I “latched” onto the light bulb idea and never let go! Figure 10 shows a “light bulb” latch-hooked from myriad yarns and fabric strips, mostly yellows, with a few gold ones interspersed to represent the best or “golden” ideas. The base of the bulb is also made from
gold lame strips, the ends of which I had to glue together to prevent them from slipping out of the grid.

Although the light bulb was easy to latch hook, having to cut five yarns (one was pre-cut) and 24 fabrics and hook them took approximately fourteen hours, the longest of any section on both of the visuals.

![Figure 10. Finished light bulb w/gold base. Gold bits in design represent the best or “golden” ideas.](image)

Regarding the slogan, I toyed with many possibilities for the Ideas phase, finally choosing the simple and effective catchphrase “got ideas?” I felt this humorous query gently encouraged people to offer their ideas, which fit into the crucial “defer judgment” characteristic of this CPS phase.

**Prepare for Action**

Now I could use my solar system motif for the Action phase. Instead of a sun,
however, I wanted the word “Plan” to be the center. I incubated on how to solve my dilemma. A pun finally provided the answer.

   Instead of the sun, a “Plan-It” fit in the center, with satellites “orbiting” it. (Figure 11)

   To keep within the red Action color range, I chose a thick maroon yarn for “Plan-It.” To indicate the unity of the plan, I used the same yarn for the orbits. To construct “Plan-It”, I cut several spheres in half. I settled on a soft rubber ball because it would be flexible when the hanging was rolled up. To increase its size, I covered the half ball in two layers of maroon yarn. I then placed softer spheres (pom poms in four colors) on the orbits. I wrote the Action steps “What? Who? By When?” and “Who Helps?” on cloth-covered cardboard with a gold fabric pen. However, the satellite “By When?” needed additional chronological terms. So I cut three stars from foam sheets, spread them with gold paint, etched the words “Now, Soon, Later”, and placed them next to the purple pom pom. The final touch

Figure 11.
The Plan-it with orbiting satellites in Action phase.
was writing “Plan-It” in gold on brown and maroon fabric and gluing it across the half ball.

To finish off the plain language wall hanging, I glued a custom-made “creative license” in the lower left-hand corner. I’ve handed out these licenses to participants in my “creati-vivi-ty” classes for years and recently to participants in CPS sessions. Utilizing one to complete the hanging seemed appropriate since I’d certainly used my plenty of creative license to craft it!

Initially, I did not plan to make all three phases of this visual out of yarns. I only noticed that commonality towards the end of working on the wall hanging. However, the tactile nature of the yarn attracted people, which was an asset at this visual did not contain an interactive element.

**Final Product—Deliverable**

Here is the final wall hanging, which is my interpretation of the CPS (plain language) Model. (Figure 12).
Figure 12.

The final product—my wall hanging version of the CPS (plain language) Model.
My second wall hanging was a broad interpretation of the Thinking Skills model. (2007, Puccio et al.). In the original model three sections, Clarification, Transformation, and Implementation, form three arcs on the outer rim of a circle. Each arc contains two diamonds, each containing a subset of a CPS phase. “Explore the Vision” and “Formulating Challenges” are subsets of the blue Clarification arc; “Exploring Ideas” and “Formulating Solutions” fill in the green Transformation section; “Exploring Acceptance” and Formulating A Plan” fit into Implementation’s purple arc. The diamond shapes suggest the diverge-converge characteristics of the CPS process. In the circle’s center is a six-pointed “decide” star, each point indicating a diamond. In the center of the star is one more diamond, which was designed to be a spinner to point to one of the stars’ points.

The colors of the original visual were too muted for my taste. (Note: In Figure 13 the arcs are still blue, green and purple. However, I asked Neil to convert the dusty shades to jewel tones.) When I found a rainbow batik, I immediately knew
this would be my background and I would change my models colors to brighter ones. Once again, in a meditation, my concept transformed from the original design to the final product.

Because I used a “heart of the problem” in my wall hanging of the CPS (plain language) Model and I’d used a “coming from the heart” theme in my vision speech this summer, I wanted to carry a heart motif into my interpretation of this Thinking Skills Model as well. I envisioned each of the phases—Clarification, Transformation and Implementation—as a “muscle” in the heart.

Figure 14. My first design for the Thinking Skills Model, based on my meditation.
(See enlargement on page 67 in Appendix B.)
In my meditation I clearly saw the heart on the left, with a column of rectangles on the right. I knew immediately that these rectangles were pockets in rainbow colors. Then I realized I could hide one Thinking Skill in each pocket so a student could remove it and place it on the section of the heart where it belonged.

Since I love trees and leaves, it wasn’t difficult to imagine Thinking Skill “leaves” in those pockets, to be placed on branches (probably with Velcro) sprouting from the heart. (Recently, I’d even heard of a wood made from a hart tree.) The tree and leaves combined with the heart formed a powerful metaphor, and I’d now made the wall hanging interactive. I was very happy with this design.

Ultimately, however, I changed it. The tree-and-leaves concept felt derivative, probably because I’d already made a “creativi-tree” in Creativity Assessment, as well as fashioning a paper tree to illustrate Taylor’s Talents (both 2007 projects).

While we were fabric shopping I explained my dilemma to my mentor LeE. To find a new metaphor, we stood in the aisles between fabric bolts and brain-stormed. (Note: LeE is a master teacher of needle arts and has been a Process Buddy and a Resource Group participant in several CPS sessions.)

She suggested a giant funnel with leaves pouring into it. “You mean one of those funnels that guide them into a lawn & leaf bag?” I asked. “Yes,” she replied. Her image led to me think about water, and that led to the idea of a drinking fountain, and that led (ta-dum!) to the idea of a “Thinking Fountain.”

At first I called my model the Magical Thinking Fountain. On the drive home, however, I recalled what the term “magical” thinking meant. I realized this would
be the last cognitive concept ICSC would want to promote! I immediately scratched the word “magical” from my concept.

Figure 15.
The first Thinking Fountain model, copied from an Asian-style fountain.

(See enlargement on page 68 in Appendix B.)

Clearly, this design was a complete abandonment of the circle, diamonds, and star in the original visual of the Thinking Skill model.

To represent the concept of the problem in my visual, I placed a dark raincloud over the “Thinking Fountain.” The idea was to have dark rainwater pouring into the first basin the fountain, labeled Clarification. The water would flow to the Transformation basin, and finally into the Implementation pool. The water, represented by chiffon fabric, lightens from the black to charcoal to periwinkle blue, and ends up sparkling white.
Regarding the thinking skills, I kept to the original design of placing them in or on pockets made of rainbow colors. When I abandoned the tree motif, however, I switched from “leaves” to “raindrops” to represent the individual skills. My idea was to have students select a “raindrop”, read the skill on the back, and then place the drop on the appropriate basin of the fountain. Thus this visual would be—albeit minimally—interactive.

As soon as I arrived home I began fashioning my fountain. I drew and cut rock and tier templates from cardboard, using them to create felt rocks and three fountain levels or tiers. I planned to add “water” made from gauze, beginning with a dark color at the first level, a light blue at the second and ending in a clear “pool” in the lowest level.

![Figure 16. Felt model of Asian-style Thinking Fountain.](image)

Although this visual demonstrated the Thinking Skill process, somehow it was unsatisfying. Again, going to bed solved my problem. As I dropped off to sleep, I “saw” a Spanish/Italian-style fountain with three tiers. I knew this would be a more elegant solution for the wall hanging, so the next day I drew the following:
Seven thinking skill pockets in graduated rainbow colors formed a column to the right of the fountain. I added color-coordinated ribbon borders later.
These pockets contained the following Thinking Skills: Diagnostic, Visionary, Strategic, Ideational, Evaluative, Contextual, and Tactical. Since a skill could be placed in any pocket, a student could pull it out and put it on the appropriate tier (basin) of the fountain. This helps the student learn where these skills fit into the problem solving process.

**Final Product—Deliverable**

Here is the final wall hanging, my interpretation of the Thinking Skills Model.

![Figure 19.](image)

The final wall hanging for the Thinking Fountain, my version of the Thinking Skills Model.
Section Five: Key Learnings

Introduction

This section contains content and process learnings I experienced while working on the two wall hangings.

Process Learnings

One key learning for me was not to change the style of my project so late in the semester! Because of this change, I had to produce the majority of the project in the last three and a half weeks before the presentation due date.

Another key learning was to pay attention to the kind of procrastination I was experiencing. I needed to identify sooner whether it was the plain garden variety—simply putting off work—or the justifiable dread of doing a project that no longer motivated me (which it was in this case).

In my case, it was hard to tell. I admit I am a deadline-oriented person. However, there hadn’t been any other projects or papers in this creative studies program that produced the level of dismay that I felt about my original concept for this project, so it was difficult to identify the problem. I only knew I could not motivate myself to simply copy the CPS (plain language) and Thinking Skill models with fabric.

Another key learning was discovering that while ideation could point the way and provide inspiration, adaptation got the job done. Several times I woke with full-fledged design visions. However, as clear as these visions were, only one section in each of my wall hangings remained as I originally conceived them. These were: 1) the yellow latch-hooked fabric-and-yarn circle (though even that
evolved into a light bulb) in the CPS (plain language) wall hanging; and 2) the seven rainbow pockets in the Thinking Skills wall hanging.

As an extremely high Ideator/Innovator, I had to dust off my Adaptor skills, as well as my Clarifier/Developer/Implementor abilities by experimenting, trying out, and often playing with all the ideas I kept generating. This was the only way I could discover which ones worked best. More ideating wouldn’t expedite the trial-and-error process!

**Content Learnings**

In the next section I outline the creativity and domain relevant skills, including their sources that I drew upon during in this project.

*Evolution of the CPS Model*

When I began this project I was unaware that the CPS model that cohorts study in their first class at ICSC is called the “plain language” model. (2001, Miller et al.). Since I was making one of my visuals based on the Thinking Skills model (2007, Puccio et al.), of course I was aware of its title. And of course, we’d all been introduced to the father of creative problem solving, Alex Osborn, whose original CPS model dated from 1953. (1963).

However, what I soon learned was that in addition to these three, there were seven additional CPS models based on Osborn’s original concept. (2005, Puccio, G., Murdock, M. & Mance, M.). Two of these seven models were Osborn’s variations on his own creation, one developed by himself in 1963, and one in collaboration with Sidney Parnes in 1967. Currently, ten CPS models are
recognized, the most recent being the Thinking Skills model. (2005, Puccio et al.).

I learned how analogous the creative problem solving connections were between the plain language and Thinking Skills models. In fact, the components were virtually interchangeable. For example, I was unable to perceive any difference between the Exploring the Challenge phase in the plain language diagram (2001, Miller et al.) from the Clarification section in the Thinking Skills diagram. (2007, Puccio et al.). The purpose of both was to explore the problem the Client(s) brought to the CPS session, and discover its “heart.” Often the problem the Client brings to a CPS session is not the real problem and as a result it needs to be explored and clarified.

In addition, there was an identical component in both the Exploring the Challenge and Clarification sections of the respective CPS models. In fact, the last step of the Exploring the Challenge section of the plain language model is labeled “clarify the problem.” No doubt this prompted Puccio et al. to label the first phase of their Thinking Skills model as Clarification.

Continuing with the comparison of both models, the Generating Ideas phase in the plain language model matched the Transformation arc in the Thinking Skills model. The purpose of both was to produce ideas, as well as to select the most workable ones to solve the stated challenge.

This correlation carried over to the final phases of each model. Prepare for Action and Implementation were clearly two ways to illustrate the same process. Both contained nearly identical elements for evaluating the ideas chosen from
the previous phase. In the plain language model Prepare for Action included “Select & Strengthen Solutions” and “Plan for Action”; in the Thinking Skills model Implementation incorporated “Exploring Acceptance” and “Formulating a Plan.” It was effortless to conclude that solutions were being explored for workability and acceptance in both models, and that making plans was the final step of both as well.

However, I did not mean to imply that because these models exhibit so many similarities that I learned nothing new by comparing them. On the contrary, I learned a great deal about the Thinking Skills model. I was fascinated when I discovered the rationale behind the choice of diamonds to represent the components of each “arc” (2007, Puccio et al.). I impressed with the authors’ use of divergent (<) and convergent (>) symbols to form each diamond, symbolizing the balance of thinking skills. When I discovered that they called this balance “the heart of the CPS process” (italics mine), I realized how perfectly all the heart motifs I’d been contemplating fit this model!

In addition, I observed that a column extended across the center of the diamond, representing the familiar thinking (convergent) zone. Spaces on both sides of the column symbolized discovery (divergent) zones. I marveled at how elegantly the diamond illustrated the divergent-convergent thinking processes of CPS. (2007, Puccio et al.).

I also learned which cognitive skills people used to problem solve and how these fit into certain phases of the CPS process. (Actually, my learning about these thinking skills inspired the idea to have students place the thinking skill
“raindrops” on the appropriate Clarify, Transform, Implement basins in my Thinking Fountain.)

It was not difficult to perceive that the visionary and strategic thinking skills fit into the Clarification phase. (Diagnostic skills seemed to fit best into “Assessing the Situation.”) Nor was it any stretch to place the Ideational skill in Transformation; realistically, where else would it go? However, I noticed (as did some of my evaluators) that the Evaluation thinking skill fit in both the Transformation and Implementation sections. Evaluation is needed both to select ideas in the Transformation phase, and to determine the acceptability of solutions in the Implementation phase.

The remaining thinking skills, Contextual and Tactical, clearly belonged into the Implementation phase. By knowing how to apply solutions in context, there is more possibility of success. Finally, executing any successful plan requires tactics.

The ease of matching skills to the appropriate CPS phase is an indication of how naturally they are used in the problem solving process. It was a significant learning to see how people think when problem solving, and one I will not forget. And in my case, if I don’t forget a concept, I am guaranteed to teach it!

One significant difference exists between the CPS (plain language) Model and the Thinking Skills Model—“the Executive Step.” Because it occurs place before the Clarification phase, and it requires diagnostic thinking, it has been labeled Assessing the Situation. (That is why it is not shown in the Thinking Skills visual.) (2007, Puccio et al.)
During this phase, relevant data is gathered and identified to determine the next step in the process. (2007, Puccio et al.). In the CPS (plain language) Model, this data is gathered in the Explore the Challenge section, right after a problem statement as been identified stated (although not necessarily the final form of the problem statement). (2001, Miller et al.)

In order to demonstrate the similarities and differences between the CPS (plain language) Model and the Thinking Skills models more easily, I created the following chart comparing them.
### Comparison Chart of CPS (plain language) Model and Thinking Skills Model

<table>
<thead>
<tr>
<th>COMPONENT</th>
<th>CPS (plain language) MODEL</th>
<th>THINKING SKILLS MODEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>DESIGNERS</td>
<td>Miller, B., Firestien, R. &amp; Vehar, J.</td>
<td>Puccio, G., Murdock, M. &amp; Mance, M.</td>
</tr>
<tr>
<td>DATE</td>
<td>2001</td>
<td>2007</td>
</tr>
<tr>
<td># OF PHASES</td>
<td>Three</td>
<td>Three + One</td>
</tr>
<tr>
<td>COLORS</td>
<td>Blue, yellow, red</td>
<td>Blue, green, purple, yellow</td>
</tr>
<tr>
<td>FIRST PHASE</td>
<td>Explore the Challenge</td>
<td>Clarification</td>
</tr>
<tr>
<td>Subsets</td>
<td>A. Identify Goal, Wish, or Challenge</td>
<td>1. Exploring the Vision</td>
</tr>
<tr>
<td></td>
<td>B. Gather Data</td>
<td>2. Formulating Challenges</td>
</tr>
<tr>
<td></td>
<td>C. Clarify the Problem</td>
<td>(one each in two diamonds)</td>
</tr>
<tr>
<td>SECOND PHASE</td>
<td>Generating Ideas</td>
<td>Transformation</td>
</tr>
<tr>
<td>Subsets</td>
<td>A. Think Up</td>
<td>1. Exploring Ideas</td>
</tr>
<tr>
<td></td>
<td>B. Choose</td>
<td>2. Formulating Solutions</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(one each in two diamonds)</td>
</tr>
<tr>
<td>THIRD PHASE</td>
<td>Prepare for Action</td>
<td>Implementation</td>
</tr>
<tr>
<td>Subsets</td>
<td>A. Select &amp; Strengthen Solutions</td>
<td>1. Exploring Acceptance</td>
</tr>
<tr>
<td></td>
<td>B. Plan for Action</td>
<td>2. Formulating a Plan</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(one each in two diamonds)</td>
</tr>
<tr>
<td>ADDITIONAL PHASE</td>
<td></td>
<td>Assessing the Situation</td>
</tr>
<tr>
<td>ADDITIONAL COMPONENTS</td>
<td>PPCO: Positives, Potentials, Concerns, Overcoming Concerns</td>
<td>Thinking Skills that Support CPS: Diagnostic, Visionary, Strategic, Ideational, Evaluative, Contextual, Tactical</td>
</tr>
<tr>
<td>ADDITIONAL INFORMATION</td>
<td></td>
<td>Affective Skills that Support CPS: Curiosity, Dreaming, Sensing Gaps, Playfulness, Avoiding Premature Closure, Sensitivity for Environment, Tolerance for Risks Affective Skills that Underlie All CPS Steps: Tolerance for Ambiguity, Tolerance for Complexity, Openness to Novelty</td>
</tr>
</tbody>
</table>
Creativity skills and domain skills I used

In *Creativity is Forever* Davis (2004) provided a list of key creativity skills, which included: “fluency, flexibility, originality, elaboration, transformation, sensitivity to problems, ability to define problems, visualization, imagination, analogical/metaphorical thinking, ability to predict outcomes and consequences, analysis, synthesis, evaluation, logical thinking, ability to regress, intuition, and concentration.” (p. 100).

In the next few paragraphs I’ve examined which ones I used during the course of this project.

Clearly, I cornered my own little market on fluency of ideas! Depending on circumstances, my ability to be flexibility fluctuated. I could be very flexible if I wasn’t emotionally attached to an idea. In order to make the best wall hangings possible--best in terms of clarity and elegance--I tried to let go of my emotions. As for originality, I believed I exhibited quite a bit; the final judgment rests with my evaluators. (see Appendix E: Evaluations). I was definitely able to elaborate on my ideas, either by making new drawings, or by actually experimenting with fabric and other materials. I certainly transformed my first concept of this project to one I could enjoy. I’m not sure I was sensitive enough to problems in the project, or else I might’ve sensed and identified them sooner. I did finally define my problem, however, and developed a workable solution.

Visualization, imagination and analogical/metaphorical thinking skills were among my strong points and really assisted me in conceiving and designing the visuals. Analytical thinking and logical thinking skills, however, were not my best
strengths for me on this project. I was probably average regarding the prediction of outcomes and consequences. Sometimes I saw exactly how something would look or work out; other times I was blinded. Regarding intuition--again, if I was not emotionally involved, I used it well. If strong emotion interfered, my intuition abdicated. And I had less ability to concentrate, especially if distracted. As for regression, sometimes I think I’m back in childhood playing with boxes of crayons! On the negative side of regression, it was truly astonishing how fast I went “to temper” when my sewing machine broke down one Friday evening!

I knew when to “pour on” my energy and I also knew when to allow incubation, often asking for answers in dreams or meditation. And I learned to pay attention to those dreams!

The domain skills I used included my knowledge and experience in making paper collages, my design sense, and my knowledge of fabrics. (I use both in making myriad greeting cards.) I got to call on my latch-hooking skill (I’d made two latch-hook rugs of my own design). Even on my ability and delight in punning came to my aid (i.e. “Plan-It”). I knew how to sew straight and zig zag stitches as well as top stitch. I also had experience in making rod pockets and removing lint from a bobbin case. I knew the difference between fabric and paper scissors, which seems a trivial fact, but it was of crucial help. In order to keep fabric scissors sharp, they must never be used to cut paper.

Because I switched the style of the project so late, I did not get to improve my embroidery skills. I simply had no time to stitch words by hand. (One evening I spent three concentrated hours embroidering the word “thinking.” The fabric
puckered so much it rendered my efforts unusable.) Because my sewing machine makes letters only ½ inch high, these were also unsuited for the visuals. **Things that worked in the overall project or activities**

What worked was to change the *style* of the visuals. In fact, if I had not, I doubt I would’ve had the energy or desire to complete this project—my lack of motivation would’ve doomed the project.

What also worked was taking my mentor’s advice. At least twice she gave me terrific ideas that I kept to the very end (i.e. her idea to push many fabrics through chicken wire led to the latch-hooked light bulb).

What also worked was asking for help in areas in which I was not strong, like having Neil design the maze. And what also worked was learning new computer skills, so I was able to insert the heart in the maze myself. I also learned how to navigate PowerPoint, and as a result, created my very first presentation.

What really worked was being willing to have some of my ideas fail. I had to experiment instead of ideate. I had to let go of my strength, which is ideating, and try out ideas (i.e. on the blue binoculars, the red arrows and the heart) Even the two ideas I kept from beginning to end—the yellow fabric bits and the rainbow pockets--were modified.

I also paid attention to cues in dreams. I’ve already explained re the nightmare and the two that indicated the brown background.

What ultimately worked was persevering. I had a really bad experience when the sewing machine broke down just as I was completing a final line of stitching.
I got very discouraged and (briefly) considered not only cancelling the project, but also dropping out of the program completely.

What got me back on track was compassion. I had to shower myself with it to continue. Once I did, I not only emerged from an emotional valley, I experienced an ideational peak when that evening I developed the “Thinking Fountain” motif.

**Things to change in this project**

In retrospect, I wish I had used my mentor sooner! LeE might’ve pointed out that it was simply the style I disliked about the project, and her observation might’ve saved me a lot of time and anguish. She was also the one who suggested the idea of pushing fabric through small-gauge chicken wire, which led to my idea to latch hook the Generating Ideas circle (of the CPS plain language model), which evolved into the light bulb.

What also would’ve worked was to have my sewing machine serviced once a year. I learned it was necessary in order to keep the parts lubricated. At a cost of only $25.00, it was certainly affordable and would’ve saved me much trouble.
Section Six: Conclusion

Introduction

I was unaware of the strong connections between the CPS (plain language) Model and the Thinking Skills Model. Originally, I thought they were quite different. They were not. It’s as if the CPS models are all “riffs” on the original CPS plan Osborne formulated in the 1950s.


As shown, each of the major components has two subsets, as in the Thinking Skills model. **Clarification** contains “exploring the vision” and “formulating challenges”; **Transformation** includes “exploring ideas” and “formulating solutions”; and **Implementation** incorporates “exploring acceptance” and “formulating a plan.” (2007, Puccio et al.)

I found the following passage particularly illuminating.

Because creative thinking and problem solving are characterized by the need for higher order thinking skills that address complex thinking tasks, the framework of the CPS process is useful in helping people organize and articulate their thinking skills and problem solving at the same time. In this sense, the CPS process is like a macro thinking process that can contain and use a variety of processes, skills, or tools. From this perspective, discrete and definable thinking skills can be sufficiently isolated within the framework of the
CPS model to provide additional rubrics for people to identify and choose different kinds of thinking that will help them operate more effectively. (2005, Puccio et al, p. 61.)

As I understand this passage, the Thinking Skills model extracts, defines and refines the skills used unconsciously in the CPS process. The TS model brings to conscious awareness what people are “jes doin’ naturally” while in a CPS session.

One specific and fascinating bit I learned from Creative Leadership (2007, Puccio et al.) concerned affective skills. I was unaware of the affective skills that related to the thinking skills in creative problem solving. For instance, that curiosity is associated with pre-CPS engagement; in this case, with assessing the situation. I hadn’t realized that if a person is not curious, he or she is unlikely to engage in a problem solving session or use a CPS tool.

I knew that Playfulness was involved with Exploring Ideas, but I guess I hadn’t put it in the category of affective skills. To me, Playfulness seemed to be a quality, not a skill. The same applies to Sensing Gaps in Formulating Challenges—a skill needed to be aware of discrepancies between what exists now and what needs to be brought forth. Dreaming, Avoiding Premature Closure, having a Tolerance for Risks, and Sensitivity to Environment---none of these appeared to me to be affective skills. I now know they are both. (2007, Puccio, et al.).

This realization ties into another learning about creativity. After I read this statement:
Creativity or the production of change is a result of both thinking and emotion; it is a matter of both head and the heart. To create positive change, you must marry clear thinking with such emotional states as courage, risk taking, and tolerance for ambiguity. Although CPS may be perceived as primarily a cognitive process, deliberate creativity does not result exclusively from a thought process. To do this ignores the direct effect that affective states, such as motivation and passion, have on your ability to create. (2007, Puccio et al., p. 51).

This passage explained why my discomfort over my original concept had become so strong. By making wall hangings that would’ve been fabric duplicates of existing visuals, I had lost all motivation! I wrote above, “I had no heart.” I’d forgotten a key component of Amabile’s definition of creativity: motivation. And motivation is definitely not a cognitive skill.

I always knew it took courage to create. In fact, one of my favorite creativity definitions is “Creativity takes courage,” attributed to Henri Matisse. The derivation of the word courage comes from the Latin for heart, translated into “coeur” (French), “corazon” (Spanish), and “correggio” (Italian for courage).

I always thought of courage as carrying on even when you’re scared. But I saw that a person has to have a reason to carry on. And motivation, which is from the heart, provides that. I mentioned that I got re-motivated about this project by being compassionate to myself. I learned not to berate myself for getting dis-COUR-aged---losing heart. I was able to lead myself out of a painful place by healing my heart.
My project wasn’t directly about leadership. However, I can take away this realization when I need to lead—myself or others—in times of stress.

**What I see myself doing next**

Do you mean the day after I turn in this project? Put together our Christmas cards! (This is the 34th year of our own designs.)

Seriously, I *had* thought about making a series of greeting or artist trading cards (ACTS) to represent the CPS process. The main reason I didn’t choose making cards as my project was that creating the wall hangings presented a bigger challenge.

Next semester I will be completing the final two courses for the Master’s degree: Current Issues in Creativity, and Tools for CPS, so I will graduate in July.

I will stay in academia by continuing to tutor at Valencia Community College, and hopefully get hired as an adjunct professor. Since I now have a relationship with a professor whose creativity course is being reviewed for the fall 2008 curriculum (under Student Life Skills) at Valencia Community College, I am guaranteed a chance to be guest teacher for one session. And when I get my master’s degree, I plan to design a CPS course as part of this professor’s four-course creativity curriculum, intended as cohort program.
References


Section Seven: Appendices
Appendix A

Concept Paper
Title of Project: Exploration of the CPS (plain language) and Thinking Skills Models and Creating Two Visuals

Aryna Ryan September 19, 2007

Project Type: Develop a Skill/Talent

Project Description

I will be exploring the connections between the Creative Problem Solving (plain language) Model (2001, Miller et al.) with the Thinking Skills Model (2006, Puccio et al.) by creating visuals of the two.

I will be constructing two wall hangings of the CPS and TS models from fabric, as well as researching the connections between the two models.

Rationale for Choice

I had several reasons for choosing this project. One, I love colors and design. (I was a colorist when I painted and my hobby is making greeting cards.) I like creating practical visuals, and I especially like working with fabric. The drawings of both the CPS (plain language) and the Thinking Skills models lend themselves to pleasing visuals that I can recreate in fabric. Secondly, since the book containing the TS model was published less than a year ago, the idea of this project is original. (As far as I know no one’s done a master’s project on it at ICSC or elsewhere.) I like doing original things. The project is also manageable---I can do it in the time allotted. I am very enthusiastic about this task. I know I have experience and skill to accomplish the task as well as enough challenge to keep me in the “flow” state Csikszentimihalyi has described. (1990).
I can and **will** use the CPS (plain language) and Thinking Skill wall hangings to teach students about creativity. I would not allow these visuals go to waste! And because they are made of fabric, they will be more portable and durable than posters. And of course I'll also use the information I learn from *Creativity Unbound, Creative Leadership*, and other sources in my teaching.

**Tangible Products or Outcomes**

1) I will have two visuals of the CPS (plain language) and TS models in the form of wall hangings.

2) From my Morning Pages notebooks, I will have a diary of day-to-day activities on my project.

3) I will have a PowerPoint slide show on my project.

4) I will have a final write-up about my project, including a chart comparing the CPS (plain language) and Thinking Skills models.

**Criteria for Measuring Effectiveness of Achievement**

I will have two wall hangings that will be effective tools in teaching CPS processes, both Plain Language and Thinking Skills..

I will have several written evaluations from people who have viewed the actual wall hangings, or the PowerPoint presentation of same. (See Appendix E: Evaluations.)

I will have Dr. Murdock’s assessment of the wall hangings.
Who Will Be Involved or Influenced/My Role:

Involved:

LeE Brady, Master Teacher in needle arts, who’s consulting with me re layout, fabric, embroidery, and who will troubleshoot--and cheer me on!

Nancy Battiste, intermediate-to-expert level quilter, who advised me not to quilt the circles. (Even she can’t do them well.) She advised fusible fabric instead.

Linda Michaels Suskie, gifted amateur needle worker, who’s advising me on the embroidery of the words

Neil Battiste, engineer (my husband), who advised me on the spinner, and helped hang the visuals and take photos.

Influenced:

Students in creativity/CPS classes

CPS clients

SBP Cynthia Hedge

ICSC

My Role:

I’ll be making all the final choices of size, colors, fabrics, lettering and poles for the hangings. I will be doing the embroidery, gluing and sewing. I will be writing about the process of this project.

Because my SBP Cindy and I have often talked about presenting creativity sessions together and she’s me told that her visuals could use some “oomph,” I can provide these.
Re ICSC, there will one student’s take on the development of the TS model from the CPS model. This could be a useful addition to (and takeaway from) the *Creative Leadership* book. And *maybe* I’ll even duplicate the hangings for use at ICSC.

**When Project Will Take Place**

Between September 2, when I made the final choice of project, and December 5, 2007, when it’s due.

Since this is a private project---in other words, I’m not presenting the hangings to the public until they are complete, I don’t have any formal meetings scheduled. I will be meeting with my mentor LeE as her schedule allows. I will be working on the hangings and write-up by myself most days, mostly in the afternoons and evenings.

**Where Project Will Occur**

I’ll be constructing the wall hangings in my own and LeE Brady’s homes, and shopping for fabrics in JoAnne’s and Hancock’s. It’s possible I’ll get feedback from clients at Winter Park Public Library. I may be using the hangings in upcoming tutoring or classroom situations at Valencia Community College. I’ll also be in cyberspace with mentors Nancy and Linda since they live out of state.

**Why It’s Important to Do This**

Because the Thinking Skills model is relatively new in the development of the creative problem solving process, not much elaborate research has been done on it by students (outside of Ms. Walsh’s and Mr. Von Reumort’s projects). It’s also important to create effective visuals. Many (most?) students and clients are
visual learners and it works to use professional—and fun—visuals when teaching or presenting a concept.

I plan to teach creative classes and facilitate CPS sessions the rest of my life. Doing this project will help me understand how students/clients think in problem solving and how to help them think more creatively. And I will have two very durable and personalized wall hangings to use with my students/clients.

**Personal Learning Goals**

- To be well-versed in the Thinking Skills model (How does it apply to Creative Problem Solving? How does it compare/contrast with the CPS model?)

- To incorporate the CPS and TS models in classes on creativity and in CPS sessions with clients.

- To become more adept in embroidery (i.e. lettering).

- To use problem solving in the construction of the wall hangings.

- To further my experience in the design and construction of fabric art pieces.

**How I Plan to Achieve Goals and Outcomes**

**Preliminary Steps for Both Wall hangings:**

1. Get advice from all mentors.

2. Decide on most optimum and workable size for the wall hangings

3. Enlarge CPS and TS model designs at Kinko’s. (Get at *least* three copies of the size chosen for each hanging—one or two for cutting, extras for reference).

4. Choose background fabrics and embroidery floss from my own supply.
Buy: fusible fabric, muslin or strong backing fabric, extra fabric (calicos) and floss, thread, spinner material, two curtain rods or bamboo poles.

**For Creative Problem Solving Model only:**

1. Re-read pgs. 59-78 in *Creativity Unbound*.
2. Make final decision on colors for CPS (plain language) Model. (I'll know I'll use complementary secondary colors for the three circles of the CPS model.)
3. Decide which visuals to put in each circle. (Explore visuals on pgs. 64, 66, 68, 70, 72, 74, 76, & 78 of *Creativity Unbound* for inspiration.)
4. Do **Steps in Common**.

**For Thinking Skills Model only:**

1. Read *Creative Leadership*, paying particular attention to the sections on the Thinking Skills model.
2. Select final fabrics for TS model. (I've already settled on violet, lavender, and light green for this.)
3. Do **Steps in Common**.
4. Make “spinner” for TS model. (Experiment with the backing for the fabric “diamond.” Diverge/converge ideas for most durable backing and best fastener.)
5. Attach spinner. Give it a test drive!
6. If necessary, keep experimenting. (Think of that good old adaptor Edison.)
7. Attach final spinner. Celebrate!
Steps in Common for Both Wall hangings:

- Remember to take photos of each step on each wall hanging.
- Lay out and cut background fabric.
- Draw and cut appropriate templates from fusible fabric.
- Draw templates onto fabric, cut.
- Sew/fuse shapes onto background.
- Use quilting or whip stitch on borders and edges.
- Decide on lettering style and size of embroidery.
- Embroider words. (*May put on separate fabric pieces and sew on those pieces.*)
- Sew rod pockets on backs. (*May be done before adding fabric to backing.*)
- Embroider my initials on backs.
- Cut poles or assemble rods.
- Put finished wall hangings on rods.
- Photograph/videotape wall hangings.
- e-mail photos/DVDs/write-up.

For write-up:

Research other material on CPS model. Also research articles or books (if any) on Thinking Skills model. Write paper (include description of assembling hangings).
Evaluations

These fall into four categories:

• My own assessment of the wall hangings’ aesthetics and effectiveness
• My mentors’ assessments of the wall hangings’ aesthetics and effectiveness
• Dr. Murdock’s final assessment of project (based on conceptual accuracy, complexity, elegance, etc.)
• Students’ assessment of the wall hangings’ aesthetics and effectiveness
• I will have written evaluations from: 1) people who have been involved with me in this project; 2) people who have participated in a CPS facilitation; 3) people who have had no exposure to CPS; and 4) people who will evaluate the PowerPoint presentation of the project.

Project Timeline

9/1 Diverged and came up with several ideas on wall hangings--Thinking skills model among them.

9/2 Discussed idea with Mary, chose to do this project. Discussed model with LeE. Left message for Nancy re quilting advice.

9/3 Talked to Nancy. Sent her e-mail w/TSM diagram. Her reply was that this project would be better made with fusible fabric than quilting techniques. (She is an intermediate-to-high level quilter and said she was unhappy with the outcome of her quilted circles. Our conclusion was that as a beginner no way could I do better!)

Discussed w/LeE the embroidering of words on hanging. May get Linda involved in doing some.
Did preliminary shopping for fabrics and got samples. (4 trips) 8 hours

9/4-5  Wrote and submitted concept paper for CRS 690.

9/6  Went to Kinko’s & enlarged TS Model.

9/8  Bought fabrics

9/9 - 9/30

(Did steps in How I Plan to Achieve Goals or Outcomes.)

9/16  Inventoried fabrics on hand at home.

9/17  Bought duck fabric as background for both hangings.

Decided to cut out paper circles and bring to store to check size in order to

choose more fabrics.

10/1- 11/30

Kept accurate journal. Work on write-up. Do more work on hangings.

10/4  Project check-in.

11/15  Project check-in.

11/21- 11/28

Put hangings on rods.

Took photos/video of myself and hangings for PP presentation.

Put final touches on PP slide show, e-mail via www.maibiqfile.com

12/5  Posted write-up in Dr. M’s dropbox in Angel.

12/6  Printed out hard copy of write-up

Mailed both to Dr. M in Etowah, NC
Pertinent Literature/Resources


I consulted these books but did not cite them in the write-up:


Appendix B

Drawings
The enlargement of Figure 2 on page 16, which was my second version of the CPS (plain language) Model. (The first version showed the circles holding hands, without props.)
The enlargement of Figure 3 on page 16, which is a variation on my vision.
The enlargement of Figure 5 on page 18, a more developed version of the variation.
This is an enlargement of Figure 14 on page 27, which was my first version for the Thinking Skills Model.
This is a variation of Figure 14 with pockets and without the tree.
This is an enlargement of Figure 15 on page 29, which was my first idea for the Thinking Fountain.
This is an enlargement of Figure 17 on page 31, which is the basic design I used for the Thinking Fountain.
This drawing shows the seven pockets for the thinking skills. Originally, I planned to extend ribbons to the fountain. In the final design, the ribbons were unnecessary.
This is the layout of fabric strips for the black raincloud, representing the “problem” over the Thinking Fountain.
This drawing shows a streamlined four-tiered Thinking Fountain, as noted on page 31. The final version in the TS wall hanging only had three tiers.
Appendix C

Photos
Started out using circles as in original CPS (plain language) hanging. These were for Exploring Challenge and Prepare for Action sections.

The yellow latch hook on the original lavender background.
Early look at the latch-hooked yellow column and heart in center of CPS (plain language) section.

My first idea was to have this heart in the center of the CPS (plain language) Model to represent “the heart of the problem.” I tried many colors and fabrics, finally changed my mind. Ended up using the heart in a maze (with the slogan) in the Exploring the Challenge section.
Original idea for Prepare for Action, discarded because something was missing. Liked arc with three arrows. PLAN to be in center of four arrows. Four arrows represent “What? Who? By When? Who helps?”

My original concept of a circle made of yellow yarn & strips of yellow fabric is evolving into a light bulb of same.
Experimenting w/globe, binoculars and heart for Exploring the Challenge. Later seems derivative of illustration in Miller, Vehar, & Firestien book. Kept “get to the heart of the problem.”

Finished light bulb w/gold base. Gold bits in design represent best or “golden” ideas generated. This design took longest of any other part of both hangings---approximately 12 hours.
I needed to pay attention to my dream about this background color for this CPS (plain language) Model.

I saw a brown background in one dream, but bought lavender batik instead.

When I had another dream showing me brown, I got the message and bought this olive brown batik.

It's been a perfect foil for the blue, yellow and red designs.

Getting the rod pocket sewn for the TS hanging was a fiasco. The machine jammed less than a third of the way through. After an hour fiddling w/the machine it had to go for repairs the next morning.
Appendix D

Morning Pages' Excerpts
8/29/07

Attended an outdoor drumming session at a local cafe.

8/29/07 cont.

Drumming practice at one locale only once a month—a major snag.
9/2/07

Need to ideate on a new project and discuss with Mary. Took large Post-It board to restaurant and brainstormed with LeE.

9/5/07

Worked on concept paper draft.
9/20/07

Found two large circle patterns for CPS (plain language) Model.

9/21/07

LeE has idea for beading on both visuals.
10/7/07

I am so uninspired by this project. What am I to do?

10/11/07

Note that I've done no laying out or cutting on project. It bores me.
I had a nightmare that changed the style of the project. Instead of making exact copies of the CPS (plain language) and TS models, I need to create my versions of them.

10/31/07

Trying to do project w/no motivation.

Realize my strength is in abstract art— I'm an ideator!
Then I found some bags of hero. Sweet Stan, especially the one on that I knew would suite. I watched her carefully as she cleared a pantry in the kitchen. Not sure, I knew a pantry very well.

The child was dark-haired, small-faced, bobbing, in a pantry-like place. Or a brown closet.

I did have the key. Only, I went up before I could see it.

So I lay here thinking about the dream. I was surprised, looked up, to a room. Here, this was worse than I thought. I didn't need the darkness, just to be bad.

Only in reflection did I realize I had a key. Indeed, in fact. How I needed to make not the woman and I could see them.

I did not enjoy last night you
But not so much as before. I also

10/31/07
Writing more about same nightmare.

11/1/07
Waiting for answer from Mary about switching style of my project.
Meditated on TS Model—my version.

11/05/07

Visualized CPS (plain language) Model—my version.
11/7/07 (cont.)

Ideating more on TS Model.

11/9/07

Experimenting with yellow circle for Generating ideas section on CPS plain language) Model.
11/12/07

Making progress and encountering snags on latch-hooking yellow circle for Ideas.

11/12/07

Developing quotation squares for the CPS (plain language) Model.
11/12/07

Developing order of slides for PowerPoint presentation.

11/13/07

Wanting more quotes for CPS (plain language) visual. Googled creativity, problem solving, thinking skills.
11/13/07

Working w/light bulb, binoculars, quotes.

11/14/07

Planning work on Thinking Skills visual: seven pockets, "leaves."

Need LeE's assistance.

Taking photos of light bulb.
11/14/07

Need to get TS Model poster made at Kinko's.

Ideating on pockets for TS visual.

11/15/07

Ironed & organized fabrics.

Had to buy a disposable camera because battery was low on digital model.
Appendix D Morning Pages' Excerpts

11/16/07
Finished latch-hooking light bulb last night!

11/17/07
Best and worst day of project so far. Got rod pockets sewn feeling great! Then when nearly done the sewing machine broke down. Got very discouraged. Don't know why, but had thoughts of quitting project, class and program.
Appendix E

Evaluations
The evaluations fall into one of four categories:

1. Those from people intimately connected with my Master's Project: my mentor LeE Brady and my husband Neil Battiste.

2. Those from people who have experienced the CPS process: Frank Davis and Wendy Jamison.

3. Those from people who were unacquainted with the CPS process: Andrea Resetar and Rachel Cook.

4. Those who evaluated the PowerPoint slide show: Amy Ryan Rued and Mark Hylton. Amy filled out an evaluation form via e-mail. Mark's comments were informal and were included with his permission.
Evaluation

CPS (Plain Language) Wall Hanging

1. Is the presentation understandable?
   Yes! The language draws the reader to the idea and the designs carry across and begin to make it interesting.

2. Does it represent the CPS—plain language—process (as seen in the poster)?
   Yes!

3. Is it aesthetically pleasing?
   The ideas flow easily from point to point.

4. How useful will it be in a teaching situation?
   This should be an excellent teaching tool.
   The students have no difficulty in "seeing" the solution.

Other comments:
As Amy's mentor, it was gratifying to see her mind work as ideas came and changed and changed again, always moving forward to the end result.

Thinking Skills Wall Hanging

1. Is the presentation understandable?
   The simplicity of the design elements give a clear way to follow.

2. Does it represent the Thinking Skills process (as seen in the poster)?
   Yes!

3. Is it aesthetically pleasing?
   I think so. Here again, the ideas come with a burst of light and were discarded as quickly.

4. How useful will it be in a teaching situation?
   Very useful.

Other comments:
I enjoyed mentoring Amy. It was enjoyable watching her proceed through the design stages and finally finishing her presentations. L E Brady
Evaluation

CPS (Plain Language) Wall Hanging
1. Is the presentation understandable?
   Yes, it is understandable, especially when the posters are available.
2. Does it represent the CPS—plain language—process (as seen in the poster)?
   Yes.
3. Is it aesthetically pleasing?
   Yes, especially the colored one (maze balls).
4. How useful will it be in a teaching situation?
   Again, with the posters I think it will enhance a teaching situation. It intuitively invites dialog and promotes "stretching" of one's perception.

Other comments:

Thinking Skills Wall Hanging
1. Is the presentation understandable?
   Yes.
2. Does it represent the Thinking Skills process (as seen in the poster)?
   Yes.
3. Is it aesthetically pleasing?
   Yes.
4. How useful will it be in a teaching situation?
   Same comments as above.

Other comments:

- Need to use with posters, at least at first.
- Promotes thinking outside the box.
Evaluation

CPS (Plain Language) Wall Hanging

1. Is the presentation understandable?
   Based on application of the entire creative problem solving process, the display is very understandable!

2. Does it represent the CPS—plain language—process (as seen in the poster)?
   Yes, key words immediately stimulate thought processes to go through basic steps of problem solving.

3. Is it aesthetically pleasing?
   Absolutely. Appealing textures, patterns, color, and arrangement of focus designs.

4. How useful will it be in a teaching situation?
   Participants will be able to easily identify and reinforce the problem solving directives without losing track in myriad details.

Other comments:
The points on the runway seem to invite tactile experience, interaction with the four areas...

Thinking Skills Wall Hanging

1. Is the presentation understandable?
   While the explanation guides the participant to see that thinking skills on the board of this runway, the application of each skill to the appropriate steps to arrive at a solution is apparent. But how to round the derivatives and apply these skills to the correct areas is not explained adequately.

2. Does it represent the Thinking Skills process (as seen in the poster)?
   The thinking skills process is not clearly apparent, but how to round the derivatives and apply these skills to the correct areas is not reinforced.

3. Is it aesthetically pleasing?
   The colors are light, bright, and anchored by the granite colors of the runway.

4. How useful will it be in a teaching situation?
   It should be quite useful in stimulating ideas and encouraging participation and sharing of ideas.

Other comments:
Evaluation

CPS (Plain Language) Wall Hanging

1. Is the presentation understandable? The "?" AND THE "O" SYMBOLS NEED TO BE MADE OF SOME FABRIC OR OTHER CAMOUFLAGE, BECAUSE THEIR MEANING AND IMPACT FALLS FLAT BEYOND A FEW FEET.

2. Does it represent the CPS—plain language—process (as seen in the poster)? IF THE TANGLED MULTICOLORED YARN 3D MACE REPRESENTS THE "EXPLORE THE CHALLENGE" CIRCLE, THEN YES.

3. Is it aesthetically pleasing? YES, THOUGH THE BACKGROUND MAKES IT LOOK A LITTLE BIT DULL, AND THE LIGHTBULB COULD BE A BIT MORE SYMMETRICAL.

4. How useful will it be in a teaching situation? NOT SURE. THE PLANIFIT PORTION WHICH IS MORE REMINISCENT OF A TRAP OR WEB CONTAINING TRAPPED FURRIES THAN A CIRCLE NEEDS TO BE MORE SELF-EXPLANATORY.

Other comments:

Thinking Skills Wall Hanging

1. Is the presentation understandable? THE WORD "TRANSFORM" ON THE SIGNPOST NEEDS TO BE A DARKER COLOR TO IMPROVE LEGIBILITY (CURRENTLY TOO LOW CONTRAST)

2. Does it represent the Thinking Skills process (as seen in the poster)? YES, EXCEPT FOR THE SUB-CATEGORIES (EXPLORING... & FORMULATING...) WHICH HAVE BEEN OMITTED.

3. Is it aesthetically pleasing? VERY NICE & CHEERFUL, FUN TO LOOK AT.

4. How useful will it be in a teaching situation? VERY USEFUL, THOUGH NOT EVERYONE WILL GET THE VISUAL PANS RIGHT AWAY

Other comments:
Evaluation

CPS (Plain Language) Wall Hanging

1. Is the presentation understandable? **understandable**, but “getting to the heart of the matter” may be a little vague for someone who never heard the phrase. This is not the case for me. I want to un-tangle the “problems” to get through this maze.

2. Does it represent the CPS--plain language--process (as seen in the poster)?
   The first two signify the process to me, but I feel as though the “space model” may signify an indefinite answer to the problem; space is open, not definite. Although a contained universe representation, there is no resolve. You need resolve for step 3.

3. Is it aesthetically pleasing?
   It is very pleasing. The colors are muted and not an eye sore. However, the muted colors (with the exception of the yellow) might not stand out as a teaching tool being easily forgotten. Primary colors are simple, easily remembered.

4. How useful will it be in a teaching situation?
   Very useful as it engages the student to break through traditional ways of thinking. It works beyond words. As for a visual image remaining in memory, I don’t think it is very memorable.

Other comments:
   People will be able to connect with the images, for they are familiar (solar system, light). Some explanation will have to occur for the heart tangled up.

Thinking Skills Wall Hanging

1. Is the presentation understandable?
   At first glance, no. I wasn’t sure how it worked. Then, after explanation, the arrangement I demonstrated I was better able to identify, and was very engaged.

2. Does it represent the Thinking Skills process (as seen in the poster)?
   Yes, and, as an added bonus, uses the processes in a hands on way. It allows the student to determine the best course of action for each goal drop to fit in the problem to solve the problem.

3. Is it aesthetically pleasing?
   I believe this is most pleasing. It follows the colors of the chevrons & stimulates the mind. Colors like this are friendly, inviting & memorable. They are also bright. Fountain ribbon is distracting from overall picture & doesn’t quite fit in.

4. How useful will it be in a teaching situation?
   More useful than the last model. It combines visual with hands-on. I would definitely remember this one.

Other comments:
   Very unique way of describing the “melt down effect” of the “waterfall” of ideas. This makes for a very pleasing & fun way to solve problems, allows for discussion, while the other model is “cut & dry.”
Evaluation

CPS (Plain Language) Wall Hanging

1. Is the presentation understandable? Absolutely. It clearly presents the three major pieces of the process.

2. Does it represent the CPS—plain language—process (as seen in the poster)?
   Yes, it takes the ideas from the poster and presents them in a way that makes you want to learn more.

3. Is it aesthetically pleasing?
   Yes! Great presentation. I especially like the use of the words like “acting to the tune” and “making the plan”

4. How useful will it be in a teaching situation?
   I think it would be an excellent teaching tool—draws students in much more than the original poster.

Other comments:
Great job! Creative use of materials for an interesting & entertaining wall hanging. Also like the “creative license”!

Thinking Skills Wall Hanging

1. Is the presentation understandable?
   Yes! Each of the three major steps as well as the seven thinking skills is well-represented, and the correlation between them is clear.

2. Does it represent the Thinking Skills process (as seen in the poster)?
   Yes, I think the “Thinking Fountain” is an awesome idea to represent this process, with the results of one step flowing into the next.

3. Is it aesthetically pleasing?
   Yes—the bright “water” background looks great against the gray bowls of the fountain.

4. How useful will it be in a teaching situation?
   The idea of pinning the drops of water representing the thinking skills to the correct fountain bowl is great—this is much more fun than filling in a blank, boring worksheet!

Other comments:
Great job!
Evaluation

Amy Ryan Rued

CPS (plain language) Model Wall Hanging

1. Is the presentation understandable? (referring to the PP slide show)

_To a lay person, this was not explained enough in the beginning so, for me, there was a disconnect._

2. Does it represent the CPS (plain language) process as seen in the poster?

_You could never read the plain language poster so again, a disconnect._

3. Is it aesthetically pleasing?

_Absolutely!_

4. How useful will it be in a teaching situation?

_The students I'm sure will be aware of the CPS and Thinking Skills process beforehand and will find the visual fun, creative and very effective._

Other comments:

_On pp. 5 & 6 there is an overlap of words on the heading which detracts from an otherwise flawless presentation. Also, on pg. 14, the word experiments has a space between the "t" and the "s."_

Thinking Skills Wall Hanging

1. Is the presentation understandable?

_Yes and no (see below)._ 

2. Does it represent the Thinking Skills process (as seen in the poster)?

_Because you couldn't read the poster very easily and it wasn't highlighted in a way that you "thought" you had to read it, I didn't know it was essential in relation to the rest of the material. Now I realize this was critical to comprehending the process. I went back after reading this question and then it made much more sense. I am an outsider so the lingo wasn't familiar to me._

3. Is it aesthetically pleasing?

_Yes, and cleverly done. Beautiful use of fabrics, colors and designs._

4. How useful will it be in a teaching situation?

_Once you explain the Thinking Skills process, I think the visuals are excellent!_
Other comments: On three occasions, you mention the amount of time you spent creating the project. From my perspective, this seemed to detract from the presentation's flow and seemed to say "in case you didn't know, look at how much time I put into this project." However, perhaps you were told to include this information. If not, I would omit it.

Sent with e-mail: Great job! Wow, very clever and creative!!

From Mark Hylton (from 11/30/07 posting on Angel):

Aryna,

I really enjoyed your slide show as I had absolutely no idea what to expect while being fascinated by what you were going to produce.

I loved the way you explained your creative processes. In the book I have just been reading (Group Genius), Keith Sawyer talks about improvisation versus planning, and proposes that the most innovations come around with less time in the planning stage and more time executing - instead of planning, they improvise. Improvisation, interwoven with planning is the key to successful innovation. Which it seems to be to be very clear in your project! You could have spent loads and loads of your time planning out your work in great detail, however you got going and improvised as you went along, changing stuff that didn't work, and it's great that you also showed the 'dead-ends', things that you didn't use.

It's a wonderfully creative project, and you ended up interpreting the two models in your own way - constructing your own knowledge of them - Paiget & Papert would be proud.
Appendix F

Time Plot
1st section: Tally of hours worked on project until 11/19/07
2nd section: Estimated time for work on project from 11/20 through 12/6/07

<table>
<thead>
<tr>
<th>TASK</th>
<th>NOTES</th>
<th>HOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shopped for background fabric, calicos, white duck</td>
<td>Made four trips (changed background on CPS hanging, needed extra white duck)</td>
<td>8</td>
</tr>
<tr>
<td>Ironed rainbow &amp; olive brown batiks and white duck</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Made drawings for both wall hangings</td>
<td>Drew these over three sessions.</td>
<td>1</td>
</tr>
<tr>
<td>Read Zen &amp; the Art of Needleworking</td>
<td>Marked sections to quote.</td>
<td>2.5</td>
</tr>
<tr>
<td>Shopped for yellow fabric, gold cord, gold lame.</td>
<td>For light bulb motif for Generate Ideas</td>
<td>1</td>
</tr>
<tr>
<td>Cut strips from fourteen yellow &amp; gold fabrics.</td>
<td>* * * * * * * * * *</td>
<td>3</td>
</tr>
<tr>
<td>Hooked circle w/ yellow yarns &amp; yellow fabric strips</td>
<td>Changed circle to light bulb with same yarns/fabrics with god fabric base.</td>
<td>8</td>
</tr>
<tr>
<td>Experimented wired &amp; blue circles on CPS wall hanging</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Experimented w/blue globe &amp; binoculars idea.</td>
<td>Not sure how to make this motif work for Explore Challenge section.</td>
<td>1</td>
</tr>
<tr>
<td>Experimented wired &amp; maroon felt, red arrows and arc idea.</td>
<td>&quot; * * * * * * * * * * * * * * * * Prepare for Action section.</td>
<td>1</td>
</tr>
<tr>
<td>Experimented wired &amp; maroon felt, red arrows and arc idea.</td>
<td>&quot; * * * * * * * * * * * * * * * * Prepare for Action section.</td>
<td>2</td>
</tr>
<tr>
<td>Made rod pocket for CPS hanging</td>
<td></td>
<td>0.5</td>
</tr>
<tr>
<td>Made rod pocket for TS hanging</td>
<td>Nightmare! Machine jammed over &amp; over. Next day Neil got it done at repair shop. His time: 1.5 Mine:</td>
<td>1</td>
</tr>
<tr>
<td>Wrote 11-5-07 draft of Sections 1, 2, 3.</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Bought two bamboo two-tiered rods</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Shopped for felt, fabric markers</td>
<td>Took longer because mentor LeE &amp; I generated new fountain motif for TS hanging.</td>
<td>3</td>
</tr>
<tr>
<td>Experimented w/machine letter embroidery</td>
<td>Can’t make letters larger than 1/2 inch—too small. Have to use markers on fabric.</td>
<td>0.5</td>
</tr>
<tr>
<td>Typed problem solving/creative quotations found on internet</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Wrote quotations on paper and placed on both backgrounds.</td>
<td></td>
<td>0.5</td>
</tr>
<tr>
<td>Searched BSC &amp; KCSC library database for KIPS article</td>
<td>Only have the Table comparing CPS models Mary sent via Angel.</td>
<td>0.5</td>
</tr>
<tr>
<td>Read quilt &amp; fabric art magazines for ideas/inspiration</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Re-read or skimmed Calks (Smith) &amp; other books</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Made Asian fountain for TS hanging</td>
<td></td>
<td>2.5</td>
</tr>
<tr>
<td>Noted sections in Morning Pages when I wrote about project.</td>
<td>Cut out support, three levels &amp; rocks from charcoal, grey &amp; olive felt.</td>
<td>2</td>
</tr>
<tr>
<td>Read CPS (plain lang.) info. in Vehar, Miller, Firesien book</td>
<td>Began scanning in for Appendix.</td>
<td>1.5</td>
</tr>
<tr>
<td>Read TS info. in Creative Leadership</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Cut &amp; covered half a rubber ball in red yarn for “Plan IT”</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Took photos of entire process at various times.</td>
<td>For solar system motif in Prepare for Action. Searched all over for rubber ball!</td>
<td>1.5</td>
</tr>
<tr>
<td>Worked on Appendices A-D</td>
<td>Included buying disposable camera when digital model failed at crucial time!</td>
<td>2</td>
</tr>
<tr>
<td>STILL TO DO</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Make orbits for four “moons” in Prepare for Action.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Create maze w/yarn &amp; gold heart on CPS hanging.</td>
<td>Neil made me maze on computer. I inserted heart in maze.</td>
<td>2</td>
</tr>
<tr>
<td>Finish creating or adding to appendices.</td>
<td>Add more photos, scan Morning Pages excerpts, ??</td>
<td>3</td>
</tr>
<tr>
<td>Attach light bulb to background on CPS hanging.</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Attach pockets to TS hanging</td>
<td></td>
<td>1.5</td>
</tr>
<tr>
<td>Add quotations &amp; words to both hangings.</td>
<td>Add fairies or ?? To pockets. Each fairy or ?? represents a thinking skill.</td>
<td>4</td>
</tr>
<tr>
<td>Add final touches on both hangings</td>
<td>Write words w/fabric markers on paper, iron on fabric, then sew/fix glue to hangings.</td>
<td>3</td>
</tr>
<tr>
<td>Take final photos.</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Make presentation on DVD.</td>
<td>PowerPoint w/photos, drawings, voiceover. (Already wrote out plan.)</td>
<td>12</td>
</tr>
<tr>
<td>Do final write-up.</td>
<td></td>
<td>4</td>
</tr>
</tbody>
</table>
Appendix G

Quotations
Quotations

Thinking Skills:

A good head and a good heart are always a formidable combination. Nelson Mandela

Problems/Solutions:

An undefined problem has an infinite number of solutions. Robert A. Humphrey

There is always a well-known solution to every human problem—neat, plausible, and wrong. H. L. Mencken

If the only tool you have is a hammer, you tend to see every problem as a nail. Abraham Maslow

No problem is so formidable that you can't walk away from it. Charles M. Schulz

The significant problems we have cannot be solved at the same level of thinking with which we created them. Albert Einstein, attributed

It's so much easier to suggest solutions when you don't know too much about the problem. Malcolm Forbes

We are continually faced with a series of great opportunities brilliantly disguised as insoluble problems. John W. Gardner

When I'm working on a problem, I never think about beauty. I think only how to solve the problem. But when I have finished, if the solution is not beautiful, I know it is wrong. R. Buckminster Fuller

Each problem that I solved became a rule which served afterwards to solve other problems. Rene Descartes

The greatest challenge to any thinker is stating the problem in a way that will allow a solution. Bertrand Russell

Creativity can solve almost any problem. The creative act, the defeat of habit by originality, overcomes everything. George Lois
A problem is a chance for you to do your best. Duke Ellington

All progress is precarious, and the solution of one problem brings us face to face with another problem. Martin Luther King Jr.

Each success only buys an admission ticket to a more difficult problem. Henry Kissinger

The best way to escape from a problem is to solve it. Alan Saporta

If a problem has no solution, it may not be a problem, but a fact—not to be solved, but to be coped with over time. Shimon Peres

Every child is an artist. The problem is how to remain an artist once he grows up. Pablo Picasso

If you can solve your problem, then what is the need of worrying? If you cannot solve it, then what is the use of worrying? Shantideva

No problem is too small or too trivial if we can really do something about it. Richard Feynman

The way we see the problem is the problem. Stephen Covey

The problem is never how to get new, innovative thoughts into your mind, but how to get old ones out. Every mind is a building filled with archaic furniture. Clean out a corner of your mind and creativity will instantly fill it. Dee Hock

It is characteristic of all deep human problems that they are not to be approached without some humor and some bewilderment. Freeman Dyson

If you don't make mistakes, you're not working on hard enough problems. And that's a big mistake. Frank Wilczek

It isn't that they can't see the solution. It is that they can't see the problem. G. K. Chesterton

To solve the problems of today, we must focus on tomorrow. Erik Nupponen
The ideal engineer is a composite. He is not a scientist, he is not a mathematician, he is not a sociologist or a writer; but he may use the knowledge and techniques of any or all of these disciplines in solving engineering problems. N. W. Dougherty

Design is directed toward human beings. To design is to solve human problems by identifying them and executing the best solution. Ivan Chermayeff

Focus 90% of your time on solutions and only 10% of your time on problems. Anthony J. D'Angelo

When solving problems, dig at the roots instead of just hacking at the leaves. Anthony J. D'Angelo

The problem is not that there are problems. The problem is expecting otherwise and thinking that having problems is a problem. Theodore Rubin

Life is not a problem to be solved, but a reality to be experienced. Soren Kierkegaard

Never let a problem to be solved become more important than a person to be loved. Barbara Johnson

Within the problem lies the solution. Milton Katselas

Problems are only opportunities in work clothes. Henry J. Kaiser

**Creativity:**

Curiosity is the key to creativity. Akio Morita

Creativity is not the finding of a thing, but the making of something out of it after it is found. James Russell Lowell

My curiosity is my creativity on the way to discovery. "Why" on Quartz

A hunch is creativity trying to tell you something. Unknown.
The secret to creativity is knowing how to hide your sources. Albert Einstein

Creativity is the power to connect the seemingly unconnected. William Plomer

Creativity is allowing yourself to make mistakes. Art is knowing which ones to keep. Scott Adams

Don't think. Thinking is the enemy of creativity. It's self-conscious, and anything self-conscious is lousy. You can't try to do things. You simply must do things. Ray Bradbury

You must not for one instant give up the effort to build new lives for yourselves. Creativity means to push open the heavy, groaning doorway to life. This is not an easy struggle. Indeed, it may be the most difficult task in the world, for opening the door to your own life is, in the end, more difficult than opening the doors to the mysteries of the universe. Daisaku Ikeda