creativity assessments
be creative while doing the assignment but not creative with the rules of the assignment (we are trying to teach you a process)

these bold black items in column one are the outline headings in this order so it is simple for us to find and give you points

each item is graded by the TAs on BOTH quality and completeness using a quarter point system from 0-1

some points are peer evaluated like these

all assignments are out of 10 points

<table>
<thead>
<tr>
<th>Outline/Time Line Check</th>
<th>1 point if completed on time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Final Idea + Recipe</td>
<td>Quality explanation of final idea with the name of the cookie, a note on why you feel it is creative, a well photographed image of the cookie, the recipe</td>
</tr>
<tr>
<td>Grade</td>
<td>Excellent - 1 Good - 0.75 Acceptable - 0.5 Poor - 0.25 Missing - 0</td>
</tr>
<tr>
<td>Comment</td>
<td>Quality documentation of idea generation process: a short statement on your idea generation process including your inspirations and which ideas you decided to test, and a listing of different ideas (at least 10) as an image or images from your notebook.</td>
</tr>
<tr>
<td>Grade</td>
<td>Excellent - 1 Good - 0.75 Acceptable - 0.5 Poor - 0.25 Missing - 0</td>
</tr>
<tr>
<td>Idea 1 Test</td>
<td>Quality documentation of testing one direction with clear photographs, a textual description of your evaluation of this idea and what you learned.</td>
</tr>
<tr>
<td>Grade</td>
<td>Excellent - 1 Good - 0.75 Acceptable - 0.5 Poor - 0.25 Missing - 0</td>
</tr>
<tr>
<td>Idea 2 Test</td>
<td>Quality documentation of testing a very different idea with clear photographs, a textual description of your evaluation and what you learned. You are welcome to and encouraged to test more than two concepts.</td>
</tr>
<tr>
<td>Grade</td>
<td>Excellent - 1 Good - 0.75 Acceptable - 0.5 Poor - 0.25 Missing - 0</td>
</tr>
<tr>
<td>Iteration</td>
<td>Quality documentation of improving a specific idea through iteration, manipulation, and/or modification. This should include clear photographs of the changes and a textual description of the process and evaluation.</td>
</tr>
<tr>
<td>Grade</td>
<td>Excellent - 1 Good - 0.75 Acceptable - 0.5 Poor - 0.25 Missing - 0</td>
</tr>
<tr>
<td>Blog Total</td>
<td>Peer Evaluated Creativity Scaled out of 2 (in class)</td>
</tr>
<tr>
<td></td>
<td>Peer Evaluated Taste Scaled out of 2 (in class)</td>
</tr>
<tr>
<td>Final Score</td>
<td>/10</td>
</tr>
</tbody>
</table>
**Cookies**

**Final Idea + Recipe**

**Idea Generation**

**Idea Test 1**

**Idea Test 2**

**Iteration**

**Timeline:**

<table>
<thead>
<tr>
<th>Dates</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>9/4</td>
<td>Intro to Medium and create account</td>
</tr>
<tr>
<td>9/5</td>
<td>Outline &amp; Timeline Due</td>
</tr>
<tr>
<td>9/6</td>
<td>Brainstorm cookie ideas</td>
</tr>
<tr>
<td>9/7</td>
<td>Research cooking methods and ingredient combinations</td>
</tr>
<tr>
<td>9/8</td>
<td>Test Idea 1 with family and friends</td>
</tr>
<tr>
<td>9/9</td>
<td>Final modifications to recipe</td>
</tr>
<tr>
<td>9/10</td>
<td>Finalize recipe</td>
</tr>
<tr>
<td>9/11</td>
<td>Finalize blog post and photograph cookie process on blog</td>
</tr>
<tr>
<td>9/12</td>
<td>Finalize blog post</td>
</tr>
<tr>
<td>9/13</td>
<td>Blog Post Due</td>
</tr>
<tr>
<td>9/14</td>
<td>Present cookies to class</td>
</tr>
<tr>
<td>9/15</td>
<td>Peer Review Due</td>
</tr>
<tr>
<td>9/16</td>
<td></td>
</tr>
<tr>
<td>9/17</td>
<td></td>
</tr>
</tbody>
</table>

- **Tuesday, 9/5/17:** Make the blog post and begin brainstorming with roommates and friends
- **Wednesday, 9/6/17:** Continue brainstorming with friends who actually know how to cook, and buy some basic ingredients for the cookies
- **Thursday, 9/7/17:** Nail down two different recipe ideas to try, and get the necessary ingredients together
- **By the end of Saturday, 9/9/17:** Have a cooking marathon. Bake the recipes, and maybe do some small iteration. Take notes
- **Sunday, 9/10/17:** Use notes and friends' cooking expertise to make the FINAL COOKIE and taste it. If it's not a disaster, take pictures for the blog. If it is, make notes and work on it some more
- **Monday, 9/11/17:** Assuming the FINAL COOKIE isn't a disaster, begin posting about it to the blog
- **Tuesday, 9/12/17:** Finish up the blog post about cookies
- **Thursday, 9/14/17:** Before class: Bake the FINAL COOKIE, to be presented in class
**quick survey**

<table>
<thead>
<tr>
<th>NAME</th>
</tr>
</thead>
<tbody>
<tr>
<td>HOW CREATIVE ARE YOU?</td>
</tr>
<tr>
<td>NOT</td>
</tr>
<tr>
<td>1 2 3 4 5 6 7 8 9 10</td>
</tr>
</tbody>
</table>

| HOW OPEN TO NEW EXPERIENCES ARE YOU? |
| NOT | SOMEWHAT | REALLY |
| 1 2 3 4 5 6 7 8 9 10 |
torrance tests
of creative thinking (TTCT)
Paul Torrance - 1966 - UMN

abbreviated torrance
test for adults (ATTA)
~ 10 minutes
torrance tests
of creative thinking (TTCT)

verbal

figural

originality - statistical rarity of the responses
fluency - total number of relevant ideas
flexibility - number of different categories
elaboration - amount of detail in the responses
novelty or originality

novel to the individual,

unoriginality

awarding unoriginality

to society,

to history

“things that are green”

-boden
novelty or originality

take a hundred americans off the street and ask them to free-associate on the word “green” and forty of them will say “grass”. the more creative associations only emerge when you get to the bottom 20 percent of responses, the long tail of associations.

- Johnson in “Where Good Ideas Come From”
2. Scoring Originality

Originality is the ability to produce uncommon ideas or ideas that are totally new or unique. For Activities #2 and #3, lists have been compiled representing common responses. Responses that are not on the list are considered uncommon.

For each design on Activity #2, which is given a fluency score, check the following list of common responses. If the design is not on the list, a score of 1 point is given.

List of Common Responses for Activity #2

<table>
<thead>
<tr>
<th>Figure 1</th>
<th>Figure 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abstract design w/o specific title</td>
<td></td>
</tr>
<tr>
<td>Bird</td>
<td></td>
</tr>
<tr>
<td>Body, human</td>
<td></td>
</tr>
<tr>
<td>Hand</td>
<td></td>
</tr>
<tr>
<td>Head, animal</td>
<td></td>
</tr>
<tr>
<td>Head, person</td>
<td></td>
</tr>
<tr>
<td>Abstract design w/o specific title</td>
<td></td>
</tr>
<tr>
<td>Head, person</td>
<td></td>
</tr>
<tr>
<td>Horse, horse's head</td>
<td></td>
</tr>
<tr>
<td>Kite</td>
<td></td>
</tr>
<tr>
<td>Tent, teepee</td>
<td></td>
</tr>
</tbody>
</table>
fluency

The best way to have a good idea is to have a lot of ideas.
-Linus Pauling

total number of relevant ideas

quantity of ideas vs. creativity of ideas per subject

$R^2 = .82$

kudrowitz and wallace, 2010
shrimp-kabobs, shrimp creole, shrimp gumbo. Pan fried, deep fried, stir-fried. pineapple shrimp, lemon shrimp, coconut shrimp, pepper shrimp, shrimp soup, shrimp stew, shrimp salad, shrimp and potatoes, shrimp burger, shrimp sandwich. That- that's about it. -forest gump
elaboration

literally “out of the box” thinking

hat vs. man in a hat vs. man with Dali mustache and glasses in a silly hat

cowboy hat
elaboration vs. Simplicity

“If a thing can be done adequately by means of one, it is superfluous to do it by means of several; for we observe that nature does not employ two instruments [if] one suffices.” - Thomas Aquinas

less is more

m.a.y.a

Occam's
elaboration

no extraneous details

6 extraneous details

![Diagram of mountain with elaboration scores](image1)

![Diagram of mountain with elaboration scores](image2)
alternative uses test
J.P. Guilford 1967
alternative uses test

J.P. Guilford 1967

a measure of “spontaneous flexibility”
i.e. divergent thinking
the novel tail

Order of Responses vs. Unoriginality of Responses

y = 0.4x^{-0.5}
R^2 = 0.94

less than 10% occurrence


"the Serial Order Effect" -- subjects are more likely to produce stereotypical ideas towards the beginning, and more unique ones later on. (Christensen, Guilford, & Wilson, 1957)

1st response = 50% occurrence

Kudrowitz and Dippo, 2013
remote association test (RAT)
sarnoff mednick 1962

COTTAGE cheese

SWISS cheese

cheese CAKE
remote association test (RAT)
sarnoff mednick 1962

TAP dance
RAIN dance
dance FLOOR
Sarnoff Mednick 1962

**Associative Theory of Creativity**

Cyrus McCormick

Mechanical Reaper
Right, Posterior Superior Temporal Sulcus (PSTS) processing novel metaphors in poetry (Gorana et al. 2008)

novel connections between unrelated words (Mashal et al. 2007)

RH equivalent of Wernicke’s area - linguistic creativity (Flaherty, 2005)

sarnoff mednick 1962

**associative theory of creativity**

Right, Anterior Superior Temporal Sulcus (ASTS)

“Aha!” Experience (Jung-Beeman 2004)
remote association test (RAT)

1 night wrist stop watch 82 16 fountain baking pop soda 78
2 piece mind dating game 53 17 rocking wheel high chair 80
3 peach arm tar pit 41 18 catcher food hot dog 30
4 flower friend scout girl 51 19 print berry bird blue 49
5 dew comb bee honey 80 20 wise work tower clock 13
6 food forward break fast 41 21 test runner map road 18
7 basket eight snow ball 39 22 health taker less care 29
8 break bean cake coffee 12 23 man glue star super 18
9 worm shelf end book 53 24 dive light rocket sky 18
10 shine beam struck moon 41 25 right cat rocket copy 39
11 duck fold dollar bill 80 26 dress dial flower sun 29
12 pie luck belly pot 49 27 force line mail air 28
13 down question check mark 28 28 rain test stomach acid 22
14 roll bean fish jelly 11 29 fence card master post 18
15 grass king meat crab 13 30 cry front ship battle 11

what actually predicts design creativity?


“a set of three creative performance plus one knowledge and two personality/motivation-related factors was able to predict 34% of the variance in students' originality scores on the pre-test product design challenge.”
what actually predicts design creativity?

everyone improves
Next Tuesday?

Semester Project Introduction
& Rachel Weidt from General Mills
(lead product design accelerator, snack food)


discussion day details

First Half (bring laptops)
Meet your team & instructor
  • Each student introduces themselves & visually presents their process and results not tasting yet
    (4 minutes/student + 2 minutes feedback)
  • General overall critique

Second Half
  • Set aside bake sale cookies and fill out labels
  • Evaluate Cookies (your team + 2 other teams)
questions!