Creativity Exercises with a Moral
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References

• These games are derived mainly from:
  – The Big Book of Creativity: Quick, Fun Activities for Jumpstarting Innovation by Robert Epstein
• Other references:
  – The ASTD Trainer’s Sourcebook: Creativity & Innovation by Elaine Biech
• Acknowledgement
  – Suggestions for improving them have come from several sources, most notably, Doug Tougaw of Valparaiso made an excellent suggestion for improving the ABC’s of creativity game
The Exercises

- Bisociation
- The Spelling Test
- Keys to Creativity
- Written Survey
Prelude to Bisociation

- Receive a handout and take out a pen or pencil
- Take 3 minutes to write down as many ideas for a new or improved hat as you can come up with
What is Bisociation?

- Bisociation is a term coined by author Arthur Koestler in his book *The Act of Creation*
- Bisociation involves connecting of two things seemingly unrelated (forced association)
- A similar concept is purveyed in Tom Kelley’s *Ten Faces of Innovation* in the Cross-Pollinator discussion
- Can be an effective entrepreneurial approach in product creation
Bisociation Examples

• Computers + mail order
  – Dell Computers (Michael Dell)
• Auction + web
  – Ebay (Pierre Omidyar)
• Bookstore + web
  – Amazon.com (Jeff Bezos)
• Horse carriage + steam engine
  – Car/train (debatable as to who was first)
More Bisociation Examples

- Wine press + coin punch
  - Printing press (Gutenberg)
- Refrigerator + rail car
  - Refrigerated rail car (Swift)
- Rubber + waffle iron
  - Sole for Nike shoe (Bill Bowerman)
- Tablet PC + cell phone
  - iPhone (Steve Jobs)
- Stuffed animal + web game
  - Webkinz (by whom?)
Bisociation Example
Bisociation Example: Ship + Kite

Metropolis, June 2006
Let’s Try It

• Now flip your sheet over
• Take 3 minutes to write down as many ideas as you can for a new or improved **hat** by thinking about **insects**
• Let’s collect some data from this exercise and take a quick look at it
<table>
<thead>
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<th>Respondent</th>
<th>Number of Ideas Without Bisociation</th>
<th>Number of Ideas With Bisociation</th>
<th>Number of Ideas Arrived at Using Bisociation which were not Originally</th>
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<td><strong>7</strong></td>
<td><strong>5</strong></td>
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</tbody>
</table>
Abstract of US2006198245

A personal electronic insect repelling device is provided by the invention. An electronic circuit supported to the underside of a brim of a hat produces a sonic signal directed towards the body of a person wearing the hat. …
Bisociation Exercise: Discussion

• How was your thinking affected when you paired a product (like hats) with an unlikely topic (like insects)?
• Do you routinely think about odd topics when working on a problem? Could this be a valuable technique?
• Do you see value in increasing your knowledge in areas well outside of your current expertise to improve your creativity?
• Another one we’ve used is to have the class brainstorm some ideas for a new or improved product by thinking about earrings and the north pole
More Information on Bisociation

- Thinkertoys has a Chapter entitled *Brutethink* with more information about using random stimulation
- Thinkertoys also provides a list of potentially useful words (mixture of nouns and verbs)
- Random word selection could be tried too
The Spelling Test

- Form three teams
- Three of the volunteers from each group take a card, leave the room, and wait outside until called upon by the volunteer number on the card
- We need another volunteer for each team to be the team timekeeper and another for each team to be the block handler
- Let’s play the game!
Volunteer #1

- Block handler get ready with Bag #1
- I’ll explain to the volunteers what they are asked to do
- Bring in Volunteer #1 for each team
- Do it!
- Timekeeper be sure to note the time duration it took to complete the task
Volunteer #2

- Block handler get ready with Bag #2
- I’ll explain to the volunteers what they are asked to do
- Bring in Volunteer #2 for each team
- Do it!
- Timekeeper be sure to note the time duration it took to complete the task
Volunteer #3

- Block handler get ready with Bag #2
- Block handler and timekeeper roles get more complicated, let me explain
- Bring in Volunteer #3 for each team
- Do it for all four words and record the time duration for each word on the timesheet!
The Spelling Test: Data Analysis

• Let’s enter the data in Excel and plot the results (with a small sample size we may or may not see the expected average trend)
ABC's Data

- **Blank Blocks**
- **Only LIT**
- **4th Word LIT**
Data from Last Time at UDM

January 2007 ABC's Data UDM

- Blank blocks
- Only LIT
- 4th word LIT

(time (seconds))
The Spelling Test: Past Solution #1
The Spelling Test: Past Solution #2
The Spelling Test: Past Solution #3
(not feasible with today’s blocks – no H’s)
The Spelling Test: Discussion

• Success can interfere with your creativity and your ability to solve problems (*anchoring*)
• If you’ve been too successful in some situation, you may be insensitive to changing conditions
• Was everyone able to spell LIT?
• Did experience on the simple spelling tasks help or interfere with the more difficult task?

*End Spelling Test*
Keys to Creativity

• Here’s how it goes…
  – Two volunteers are asked to leave the room
  – Need a volunteer timekeeper
  – Let’s do it!
Keys to Creativity: The Tools

- The first two volunteers are given only the broom shown below.
- The second two are given the full table of stuff, ideally most of which is interesting looking but useless to the task at hand.
Keys to Creativity: The Task

- The volunteer is asked to retrieve the keys from the stool without crossing the line on the floor and without the keys hitting the ground
Keys to Creativity:
Key Ring Size and Placement is Critical
Keys to Creativity:
Broom End Does Not Fit
Keys to Creativity: Sweep and Catch
Keys to Creativity: Using “The Stuff”
Keys to Creativity: Drag the Stool
Keys to Creativity:
The Ah Hah Moment
Keys to Creativity:
Another Way to Disassemble the Broom
Keys to Creativity: Baseball Approach
Keys to Creativity:
Broom Bridge Approach
Keys to Creativity: Discussion

• Multiple controlling stimuli lead to new ideas, but they can also delay the appearance of pseudo-obvious solutions to some problems
• It’s hard to tell the relevant stimuli from the irrelevant
• How did the irrelevant objects affect the volunteer? Did these objects delay finding the solutions or lead to interesting or novel behavior?
Written Survey

• Distribute the surveys (one per person)
• Take 3 minutes to fill them out
Written Survey: Data Analysis

• Note: Half were given anonymous surveys, the other half were non-anonymous (and given directions that their name and ideas might be discussed by the group)
• Average number of non-anonymous ideas = ________
• Average number of anonymous ideas = __________
Written Survey: Discussion

• “The idea is never expressed because the idea generator is afraid of ridicule. Everyone has great ideas, but most of those ideas will never be spoken out loud. Imagine the impact this has on corporate innovation …”

"10 Reasons Why Most Ideas Die" by Sue McPhail, Innovate Forum, July 17 2006
Written Survey: Discussion

• People are usually more willing to express their creative ideas when they can do so anonymously – i.e., when risk of ridicule or punishment is removed
• Why are people often reluctant to contribute their ideas to the group?
• Have you ever withheld an idea for fear it would be perceived as ‘a stupid idea’?
• If you have, do you think your mind continued to explore other creative solutions it might otherwise have migrated to?

End Written Survey
Battlebots Example

- Time permitting, Discuss Battlebots example used in Freshman orientation
- Otherwise, let’s move directly to Q&A!