Top Creativity Models and Techniques

- Brainstorming
- Six Hat Thinking
- Forced Analogy
- Morphological Forced Connections
- S.C.A.M.P.E.R.
- Backward Planning
- The Five Whys: Root Cause Analysis
“Entrepreneurs have a mindset that sees the possibilities rather than the problems created by change.”

J. GREGORY DEES
SIX CHARACTERISTICS OF THE ENTREPRENEURIAL MINDSET

Seeing and creating opportunities
creative thinking, innovation strategy, not being content with the status quo, and finding the right measures for success.

Turning ideas into action
implementing innovation strategies, creating the right pace for change, balancing innovation and operational effectiveness, personal and team effectiveness.

Leading the way
leadership and delegation, employee engagement, developing an entrepreneurial mindset in others and removing barriers to entrepreneurial approaches.

Using resources smartly
developing a culture of innovation, commercialisation, smart use of available resources, incentives and rewards for new ways of working.

Managing risk
changing from a risk averse culture, learning from failure, anticipating and overcoming likely barriers, encouraging and supporting risk taking in higher education.

Collaborating to create shared value
building internal and external networks, engaging with business and industry, creating economic, social and cultural value, evidence of impact.
Several years ago, I heard a fictional story about a group of aliens who were visiting the Earth for the first time...

The aliens made several observations and reported back that the Earth was inhabited by “metallic creatures” called cars. Each car owned at least one two-legged slave who cared for it. Each morning, the slave would wake up the car and take it to its social club, a parking lot, to be with other cars. Meanwhile, the slave would go to work to earn money to take care of the car and at the end of the slave’s work day, the car would bid farewell to its friends at the parking lot and the slave would take it back home. When the car was hungry, the slave would take the car to a gas station for nourishment. And on days when the slave was not making money for the car, the slave would wash it or take it for a drive to show it a lot of different places.

The story cleverly pointed out that, viewed by new eyes, alien eyes, the world could be interpreted in very different ways.
Problems = Profits

Parking Congestion on Campus

• Create a “realtime” APP showing open parking spots or where the various buses are enroute.
• Work with local homeowners to rent their driveways
• Create a car that can be folded up and easily carried to class.
• Develop a campus-wide subway system or above ground UNM Monorail (like Disneyworld).
• Offer rental bicycles, Segways or skateboards that are available at various distribution points around campus… pick one up at one location and drop it off at another.
• Offer more online courses so students don’t need to come to campus.
• Offer a hotel-like concierge service!
MU/P Ratio

\[ \text{Value} = \frac{\text{Marginal Utility}}{\text{Price}} \]

(Driven by WIIFM)
Creativity Exercise
Connect The Dots

Using a pen or pencil, connect the dots with only four lines. Start at one dot and connect all of the dots without lifting your pen or pencil from the paper. You may cross a dot more than once. Good luck!
The Solution
Thinking Outside the Box
An Alternative Solution
An Alternative Solution
An Alternative Solution
May 30, 1974
5 FDR
Roosevelt Rds.
Cebu, P.R. 00635

Dear Prof. James L. Adams,

My dad and I were doing puzzles from "Conceptual Blockbusting." We were mostly working on the dot ones, like ⋮. My dad said a man found a way to do it with one line. I tried and did it. Not with folding, but I used a fat line. I don't say you can't use a fat line, like this

P.S.
Actually you need a very fat writing apparatus.

Sincerely,
Becky Ruechel
Age: 10
Brainstorming

• Description:
  – Used to develop novel ideas to solve a problem in a low-conflict environment
  – Team members are encouraged to participate by “not judging” any ideas presented

• Process:
  – Clearly state a problem to resolve, or question to answer
  – Write down ideas as they occur without judging them
  – Judge them later (in terms of feasibility, cost, time, etc.)

• Example:
  – Choose a problem and “brainstorm” ideas to solve it…
Discouraging Words

The next time your ideas are met with words of discouragement, remember that most of the great inventors had to fight a similar battle before their ideas were accepted. Take, for example, some of the more famous, yet misguided, comments made through history:

- "This 'telephone' has too many shortcomings to be seriously considered as a means of communication. The device is inherently of no value to us." Western Union internal memo, 1876.
- "Heavier-than-air flying machines are impossible." Lord Kelvin, President, Royal Society, 1895.
- "I think there is a world market for maybe five computers." Thomas Watson, Chairman of IBM, 1943
- "We don't like their sound, and guitar music is on the way out." Decca Recording Co., rejecting the Beatles, 1962.
- "So we went to Atari and said, 'Hey we've got this amazing thing, even built with some of your parts, and what do you think about funding us? Or we'll give it to you. We just want to do it. Pay our salary, we'll come work for you. And they said, 'No.' So then we went to Hewlett-Packard, and they said, 'Hey, we don't need you. You haven't go through college yet.'" Apple Computer Inc. founder Steve Jobs on attempts to get Atari and Hewlett-Packard interested in his and Steve Wozniak's personal computer.
- "The concept is interesting and well-formed, but in order to earn better than a 'C', the ideas must be feasible." A Yale University management professor in response to Fred Smith's paper proposing reliable overnight delivery service. Smith went on to found Federal Express Corp.
- "A cookie store is a bad idea. Besides, the market research reports say America likes crispy cookies, not soft and chewy cookies like you make." Response to Debbie Fields' idea of staring Mrs. Fields' Cookies.

When you encounter those proverbial "nay-sayers", stand firm, believe in yourself and push even harder! Remember Benjamin Franklin's words… "A kite rises against the wind, not with it".
# No Judging

<table>
<thead>
<tr>
<th>Negative Thinking</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>It won’t work.</td>
<td>How will we know unless we try it?</td>
</tr>
<tr>
<td>We’ve never done it before.</td>
<td>That’s the best reason for doing it now.</td>
</tr>
<tr>
<td>It isn’t in the budget.</td>
<td>Budgets represent yesterday’s planning.</td>
</tr>
<tr>
<td>We’re not ready for that.</td>
<td>When will we be?</td>
</tr>
<tr>
<td>Let’s think about some more.</td>
<td>Time is money.</td>
</tr>
<tr>
<td>You can’t teach an old dog new tricks.</td>
<td>Event a new dog can’t be taught new tricks if he doesn’t’ want to learn.</td>
</tr>
</tbody>
</table>
Six Hat Thinking

• Description:
  – Used to make better decisions by evaluating their consequences from various different perspectives in a controlled environment.
  – Tool was created by Edward de Bono in his book 6 Thinking Hats

• Process:
  – Participants wear different color hats to surface different viewpoints including both positive and negative comments

• What Does Each Color Mean?
  Black = Black reminds us of a judge’s robes, what risks are you concerned about?
  Blue = The blue hat looks at the thinking process, what should we do next?
  Green = Green suggests vegetation, growth, life, novel or alternative uses?
  Red = Red suggests fire and warmth, how do you feel about it?
  White = White suggests paper, what information do we need?
  Yellow = Yellow suggests sunshine and optimism, what are its benefits?
Forced Analogy

• Description:
  – Used to solve a problem and gain new insights by comparing it to another problem (especially one that has been resolved previously)

• Process:
  – Group participants seek out another process that has some similarities to the problem under consideration to seek out alternative solutions.

• Example:

<table>
<thead>
<tr>
<th>Human Body</th>
<th>Los Angeles</th>
</tr>
</thead>
<tbody>
<tr>
<td>– Biological system</td>
<td>– System of humans</td>
</tr>
<tr>
<td>– Internal organs work in concert</td>
<td>– Dependent organizations</td>
</tr>
<tr>
<td>– Temperature</td>
<td>– Tension (Riot)</td>
</tr>
<tr>
<td>– Holistic medicine focusing on lifestyle</td>
<td>– Take long term view of city’s health</td>
</tr>
<tr>
<td>– Critical mechanisms</td>
<td>– Community links</td>
</tr>
<tr>
<td>– Preventative medicine</td>
<td>– Preventative actions</td>
</tr>
</tbody>
</table>
Morphological Forced Connections

• Description:
  – Used to develop new product ideas by determining the viability of every possible combination of a product’s attributes

• Process:
  – Choose a product or service to dissect and then list the key attributes or ingredients that make up that product
  – Below each attribute, place as many alternates as you can think of
  – Make random runs through the alternates picking up a different ones from each column and assembling the combinations into entirely new forms of your original subject

• Example: Inventing a new automobile configuration

<table>
<thead>
<tr>
<th>Shape</th>
<th>Wheels</th>
<th>Fuel</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>Square</td>
<td>Four</td>
<td>Gas</td>
<td>Metal</td>
</tr>
<tr>
<td>Aerodynamic</td>
<td>One</td>
<td>Electricity</td>
<td>Plastic</td>
</tr>
<tr>
<td>Sphere</td>
<td>Track</td>
<td>Bio-Fuel</td>
<td>Ceramic</td>
</tr>
<tr>
<td>Body Suit</td>
<td>Anti-Gravity</td>
<td>Garbage</td>
<td>Invisible</td>
</tr>
</tbody>
</table>
## Build a New Taco

Circle the ingredients you would like to include in your new food offering.

<table>
<thead>
<tr>
<th>Tortilla</th>
<th>Prep</th>
<th>Shape</th>
<th>Protein</th>
<th>Garnishments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corn - Blue</td>
<td>Bready</td>
<td>Bowl</td>
<td>Beans</td>
<td>Avocado</td>
</tr>
<tr>
<td>Corn - Yellow</td>
<td>Fried</td>
<td>Covered</td>
<td>Beef</td>
<td>Beans</td>
</tr>
<tr>
<td>Flour - Rice</td>
<td>Grilled</td>
<td>Flat</td>
<td>Chicken</td>
<td>Cabbage</td>
</tr>
<tr>
<td>Flour - Wheat</td>
<td>Folded</td>
<td>Chirozo</td>
<td>Cheese</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Puffed</td>
<td>Egg</td>
<td>Chile - Red or Green</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rolled</td>
<td>Ham</td>
<td>Cilantro</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lamb</td>
<td></td>
<td></td>
<td>Coleslaw</td>
<td></td>
</tr>
<tr>
<td>Pork</td>
<td></td>
<td></td>
<td>Guacamole</td>
<td></td>
</tr>
<tr>
<td>Seafood</td>
<td></td>
<td></td>
<td>Jalapeno</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Lettuce</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Lime</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Mole Sauce</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Onions</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Pico de Gallo</td>
<td></td>
</tr>
<tr>
<td>Rice</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Salsa</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Salsa</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tomatoes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Creativity Exercise:

**Product Name:**

**Target Market:**

**Slogan/Jingle:**
Backward Planning

Similar to taking a plane flight, first define your desired end result and then plan all of the steps necessary to achieve your objective.

7:30 am  SW Flight #1000 departs for Phoenix, AZ
6:30 am  Check in at counter
6:20 am  Arrive at Abq Int’l airport via shuttle bus
6:00 am  Park in long-term parking
5:30 am  Leave house
4:30 am  Wake up, shower, dress, short breakfast

Night before - Pack suitcase and hanging bag including book to read
24 hours ahead – Get seating assignment online
4 weeks ahead  – Purchase tickets, make hotel reservations, purchase tickets
6 months ahead - request time off from work
A philosophy professor stood before his class and had some items in front of him. When class began, wordlessly he picked up a large empty mayonnaise jar and proceeded to fill it with rocks. Rocks about 2" in diameter. He then asked the students if the jar was full? They agreed that it was.

The professor then picked up a box of pebbles and poured them into the jar. He shook the jar lightly. The pebbles, of course, rolled into the open areas between the rocks. He then asked the students again if the jar was full. They agreed it was. The students laughed.

The professor then picked up a box of sand and poured it into the jar. Of course, the sand filled up everything else. "Now," said the professor, "I want you to recognize that this is your life. The rocks are the important things - your family, your partner, your health, your children - anything that is so important to you that if it were lost, you would be nearly destroyed. The pebbles are the other things that matter like your job, your house, your car. The sand is everything else. The small stuff."

"If you put the sand into the jar first, there is no room for the pebbles or the rocks. The same goes for your life. If you spend all your energy and time on the small stuff, you will never have room for the things that are important to you. Pay attention to the things that are critical to your happiness. Play with your children. Take time to get medical checkups. Take your partner out dancing. There will always be time to go to work, clean the house, give a dinner party and fix the disposal."

"Take care of the rocks first - the things that really matter. Set your priorities. The rest is just sand."
7 STEPS to GREAT BUSINESS IDEAS

SCAMPER is a framework designed to help you come up with fresh ideas, whether for a product, a service or a process, by starting with something that already exists and subjecting it to 7 areas of questioning. Below are the 7 areas and sample questions to get you to the solution you’re seeking.

**SUBSTITUTE**
- Other properties?
- Other time/place?
- Other people?
- Other feelings/attitude?

**COMBINE**
- One product with another?
- Purposes/objectives?
- Talents/resources?
- Steps/activities?

**ADAPT**
- To a different context?
- Using borrowed features?
- Using ideas outside your field?
- To another market/situation?

**MODIFY/MAGNIFY**
- Features/steps?
- Physical qualities?
- Size/duration/pricing?
- Frequency?

**PUT TO ANOTHER USE**
- For other users?
- To solve other problems?
- Using the by-products?
- To work elsewhere?

**ELIMINATE**
- How to simplify?
- What are non-essentials?
- Make it smaller?
- Reduce cost/time/effort?

**REVERSE/REARRANGE**
- Interchange components?
- Use another order?
- Reverse everything?
- Exchange roles?
The Five Whys: Root Cause Analysis

- A technique for continuous improvement of company process
- Ask “Why” five times when something unexpected happens
- Behind every supposed technical problem is usually a human problem.
- Fix the cause, not just the symptom.
Problem Statement
“The vehicle will not start”

Why 1
The battery is dead.

Why 2
The alternator is not functioning.

Why 3
The alternator belt has broken.

Why 4
The alternator belt was well beyond its useful service life and not replaced.

Why 5
The vehicle was not maintained according to the recommended service schedule.
Our client is refusing to pay for leaflets we printed for him

The delivery was late, so the leaflets couldn’t be used

The job took longer than we expected

We ran out of printer ink

The ink was all used on a large, last-minute order

We didn’t have enough ink in stock, and couldn’t order new supplies in time

Find an ink supplier who can deliver at short notice, so that we can continue to minimize inventory, reduce waste, and respond to customer demand.
Win / Win
Fun Ideas

- Artomat: - Art Vending Machine
- Customer Cap
- ELMO – Enough, Let’s Move On!
- Skunk (idea smells bad) vs. Honey Bee
- Creative Whack Pack
- Toastmasters Table Topics Conversation Cards
- Clown Nose, Antenna, etc.
- Up With People Alumni Tele-Survey
  - 3 Question Postcard vs. 3 Page Survey
  - 643 So Cal Alumni, from 27 responses to over 200
- Up With People Alumni Newsletter
  - Emails vs. Fill in your own Square
- Top Ten Teachers
“Give it Back Better Than You Got it”

Jack F. Kemp
1935-2009

U.S. Presidential Candidate
U.S. HUD Secretary
Quarterback, NFL and AFL Teams
Brainstorming Exercise

What is the biggest challenge you face right now?
Appendix
## Market Share Analysis

Greater Albuquerque Chamber of Commerce

<table>
<thead>
<tr>
<th># Employees</th>
<th># Companies</th>
<th># Members</th>
<th>% Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>250 or more</td>
<td>214</td>
<td>43</td>
<td>20.1%</td>
</tr>
<tr>
<td>100-249</td>
<td>476</td>
<td>79</td>
<td>16.6%</td>
</tr>
<tr>
<td>50-99</td>
<td>866</td>
<td>22</td>
<td>2.5%</td>
</tr>
<tr>
<td>20-49</td>
<td>2,034</td>
<td>168</td>
<td>8.3%</td>
</tr>
<tr>
<td>10-19</td>
<td>2,575</td>
<td>297</td>
<td>11.5%</td>
</tr>
<tr>
<td>5-9</td>
<td>2,662</td>
<td>391</td>
<td>14.7%</td>
</tr>
<tr>
<td>1-4</td>
<td>6,709</td>
<td>1,829</td>
<td>27.3%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>15,408</strong></td>
<td><strong>2,829</strong></td>
<td><strong>18.4%</strong></td>
</tr>
</tbody>
</table>
How I Reinvented The Chamber’s Sales Processes

• Sales to “Start-ups”:
  – Reassigned Secretary to make initial calls, manage prospect database, schedule appointments, and follow-up with marketing collateral
  – Replaced Activity Reports with (call in) “Results” Reports
  – Launched Sales Training Program

• Sales to “Larger Employers”:
  – Launched Member-to-Member “Spear-It” Campaign
  – Asked Board Members to accompany Sales Reps on calls
    (Member who brought in most sales, won a trip to Napa, 2nd and 3rd place winners received cases of wine)
  – Prospects were excited to meet board members, many of whom were CEOs of major local companies
  – Account Execs earned commissions for completed sales
UNM - Providing Critical Business Education

- UNM Anderson School of Management
  - Educational programs to expand skills, improve performance, etc.
    - Bachelor’s and master’s degree programs
    - Career and professional development training
    - Customized leadership training programs
  - Assist with Student Internships:
    - UNM and Anderson Career Services Offices

- UNM Small Business Institute:
  - Connect local businesses to MBA student teams to conduct market research, prepare business and marketing plans
  - Guided by a faculty member
  - Access to library of scholarly data, research reports
  - Valuable experiential learning experience for students

- UNM Rainforest Innovations:
  - Create, Sell, Bank!
  - Entrepreneurial Capabilities Certificate (7 Webinars)
UNM Rainforest Innovations Certificate Program Topics
http://loborainforest.com/nmrainforest/videos/

• Getting Started:
  - Business Idea Generation
  - Business Strategy Matrices
  - How to Start and File an LLC
  - Pathways to Success – Small Business Ownership
  - Taxes and Business Startups

• Customer Discovery & Product Development:
  – Business Model Canvas
  – Carrying Out Customer Discovery in a Virtual World
  – Collaborative Problem Solving Through Design Thinking
  – Go-to Market Strategies for Entrepreneurs
  – Intellectual Property 101
  – Market Analysis
  – Product Design – Making It Real
  – Strategies for Designing, Creating, or Renovating Your Business Model
  – Success by Design: The First 5 Steps to Launching a Successful Business
  – Sustainable Business Practices to Achieve Business Longevity
  – Talking to Your Customer – The Why and How
  – Virtual Start-up Boot Camp #1 – What? So What? Therefore!

• Intellectual Property:
  – Intellectual Property 101
  – USPTO University Outreach Series with Director Iancu
  – Patent Protection in 2021, a Primer
UNM Rainforest Innovations Certificate (Cont.)

http://loborainforest.com/nmrainforest/videos/

• Networking and Pitching Your Idea:
  – Taxes and Business Startups
  – How to Network Virtually
  – How to Write, Practice and Record Your Pitch
  – Networking and Business Development
  – Pitching and Presenting Your Idea!
  – Strategic Networking: Maximizing Your Connections to Grow Your New Business
  – Virtual Boot Camp #1 – The Pitch
  – Virtual Boot Camp #2 – Pitch Deck Magic!

• eCommerce:
  – Selling Without a Store
  – Sustainable eCommerce Business for Students

• Financing:
  – Drinking Beer at the Bar – Finding Deal Flow

• COVID-19 Resources:
  – Tapping into Native Business Resilience Moving Forward

• Other Videos:
  – What is the NM Rainforest EDA University Center Program?
  – The Next Level Navigator ®
  – UNM-Gallup University Center Info Session and Meet a Mentor
For More Information

- AIGA New Mexico (Association for Design), https://newmexico.aiga.org/
- American Creativity Association, https://www.actcreatively.org/
- Coffee + Creatives, Abq, https://www.facebook.com/groups/coffepluscreatives/
- Creative Santa Fe, https://creativesantafe.org/
- CreativeMornings Santa Fe, https://creativemornings.com/cities/sfe
- Disneyworld, Epcot, Imagination Pavilion!, https://disneyworld.disney.go.com/
- Electric Playhouse, https://electricplayhouse.com/
- FUSE Makerspace, https://www.fusemakerspace.org/
- Professionals Organizers of New Mexico, https://nmorganizers.com/
- QueLab – A Nonprofit Makerspace & Hackerspace, https://quelab.net/
- Santa Fe Innovates - Business Accelerator, https://santafeinnovates.com/
- Santa Fe Institute, https://www.santafe.edu/
- UNM Osher LifeLong Learning Institute, http://ce.unm.edu/usher/support.html
- UNM Rainforest Innovations, https://innovations.unm.edu/

I recommend connecting with me on LinkedIn, https://www.linkedin.com/in/stacysacco/
Books:
- Create the Future: Tactics for Disruptive Thinking, Jeremy Gutsche, 2020
- Oxford Handbook of Creative, Innovation, and Entrepreneurship, Christina Shalley, 2015
- Six Thinking Hats, Edward De Bono, MICA Management Resources, 1985
- The Rise of the Creative Class, Richard Florida, 2002

Related Magazines:

Related Videos:
- TED Talks About Creativity, https://www.ted.com/topics/creativity
- TED Talks About Innovation, https://www.ted.com/topics/innovation
- Embrace the Shake, www.youtube.com/watch?v=YrZTho_o_is
Speaker Biography

Stacy A. Sacco, MBA
sasacco@unm.edu
(505) 489-2311

Site Mentor, UNM Rainforest Innovations | UNM Taos Campus, https://innovations.unm.edu/
Interim Director, UNM Small Business Institute, https://sbi.mgt.unm.edu/
Lecturer I Emeritus, UNM Anderson School of Management, https://www.mgt.unm.edu/
President, Sacco Connections LLC, https://www.nmnetlinks.com/

Memberships / Boards:
American Creativity Association, https://www.actcreatively.org/
American Marketing Association, https://www.ama.org
Up With People International Alumni Association, https://upwithpeople.org/alumni/about/
Workforce Connections of Central New Mexico, https://www.mrcog-nm.gov/354/Workforce

Social Media Connections:
LinkedIn - 6,162 Followers, https://www.linkedin.com/in/stacysacco/
Facebook - 670 Friends, https://www.facebook.com/stacy.sacco.31/
Instagram – No Interest
Twitter – No Interest

Accolades:
Power Broker (one of the 100 most influential people statewide), New Mexico Business Weekly, 2008-2012
Best Local to Lunch With (1 of 5, ranked #1 in 2014), Albuquerque the Magazine; 2013-2019
Most Connected Businessperson in Albuquerque (1 of 7), Albuquerque Business First, 2015
Best Person to Pitch Albuquerque in an Elevator Speech (1 of 18), Albuquerque Business Pulse Survey, 2015