Being More Creative

@ShaneFarritor
Professor, Mechanical Engineering, UNL
Pan/tilt/zoom camera and sensors to provide a detailed 360° perspective on the surgical suite.

ILR grasped by ETR.
Design
not only function

Story
not only argument

Symphony
not only focus

Empathy
not only logic

Play
Not only seriousness

Meaning
Not only accumulation
CAROL S. DWECK, Ph.D.

mindset
THE NEW PSYCHOLOGY OF SUCCESS

HOW WE CAN LEARN TO FULFILL OUR POTENTIAL

*parenting
*business
*school
*relationships

1.8 MILLION COPIES IN PRINT

“Through clever research studies and engaging writing, Dweck illuminates how our beliefs about our capabilities exert tremendous influence on how we learn and which paths we take in life.”

—Bill Gates, GatesNotes

LINCHPIN
Are You Indispensable?

THE NEW YORK TIMES BESTSELLER

Bestselling author of Purple Cow, The Dip, and Tribes

SETHE GODIN
No to “me too”.
An Employee

Your Job –
there is a map
this is you’re salary
Your Job – there is a map

Your Art – there is no map this is a gift

A Linchpin
It is impossible that you have no creative gift.
It is a gift.

The only way to make it live and increase is to use it.
You cannot be sure that it is not a great gift.
Innovation is not intelligence. (R=0.2-0.3) Your abilities are not fixed. Innovation can be taught/learned.
Link the 9 dots with no more than 4 straight lines without lifting your pencil
Cream
Skate
Water
How important is innovation to your work organizational structure?

A. Vital
B. Encouraged, but not my top priority
C. Not important
D. Discouraged
E. Looked down upon
What role do you believe innovation plays in your field in the years to come?

A. Absolutely necessary - It won’t survive without it
B. It will be necessary for the industry to grow and develop
C. It keeps things fun for our customers, but sales aren’t impacted
D. Minimal - We pride ourselves on the consistency of our quality product/service
E. None whatsoever
Make a Decision

TO DO
- Prepare Ignite Lincoln Talk
- Complete FRA final report
- Pay bills
- Buy wife flowers
- Go to stupid meetings
Good
+
Different
=
Innovative
Start with Why (Simon Sinek)
We are educating people out of their creativity.
Everything that is important about art I cannot teach you.

Oct. 20: Little Bets
Nov. 1: Brainstorming and Other Thinkertoys
Nov. 3: Orbiting the Giant Hairball
Nov. 15: Where Good Ideas Come From
Nov. 22: What in the Heck Are You Talking about?
Tool #1:

Little Bets
A Little Bet:
Take Action to Discover What To Do

Don’t intentionally try to fail, but know that you will make important discoveries. Look for small wins.
Making is a better way of thinking
Take a Little Bet
What is a little bet

• An action
• An allocation of resources
• A careful eye on outcomes
• Examples
  – Walk across the room to talk to someone
  – Build a prototype
  – Take a prototype to customers
  – Make 20 units and sell them at a loss
Big vs. Little Bets

*It’s better to fix problems than prevent errors.*

- Little bets inevitably involve failure.
- Experimental innovators view failure as both inevitable and instrumental.
- Focus on doing, rather than planning.
Little Bets Create Small Wins

Think Pixar

• a concrete, complete, implemented outcome of moderate importance
• Watch closely – this is what you build upon
• Small wins favor another small win
• Small wins do not combine in a neat, serial, linear form to a predetermined goal
• Small wins are scattered and cohere only in the sense that they move in the same direction . . .
Tool #2:

Orbiting the Giant Hairball
Orbiting the Giant Hairball
Tool #3:

Where good ideas come from.
Where Good Ideas Come From
The Reef, City, Web

(mass scale)**(1/4)
Liquid Networks
Liquid Networks
The Slow Hunch

FEDERAL BUREAU OF INVESTIGATION

Precedence: ROUTINE

To: Counterterrorism

Attn: RFU
SSA David Frasca
IRS Elizabeth Harvey Ma
UBL Unit
SSA Rodney Middleton
IRS Jennifer Maitner
IRS Mark Connor
IRS Fred Srennel
I-46
SSA Jack Cloonan
SA Michael S. Butsch

New York

From: Phoenix
Squad 16
Contact: SA Kenneth J. Williams

Approved By: Kurtz William A

Drafted By: Williams Kenneth J

Case ID #: (Pending)

Title: [Redacted] ZAKARIA MUSTAPHA SOUBRA; IT-OTHER (ISLAMIC ARMY OF THE CAUCUS)

Synopsis: [Redacted] UBL and AL-MUJAHIROUN supporters attending civil aviation universities/colleges in the State of Arizona.

[Redacted]

Full Field Investigation Instituted: 04/17/2000 (HNONUSPRR)

Details: [Redacted] The purpose of this communication is to advise the Bureau and New York of the possibility of a coordinated effort by...
Tool #4:

Thinkertoys
Thinkertoys – False Faces

• False Faces
  – Find ideas by reversing conventional assumptions

• Restaurant:
  – Wait to be seated
  – Sit down
  – Server brings menus
  – Server brings drinks
  – Server asks for order
  – Order Food
  – Wait
  – Server re-fills water
  – Eat food
  – Server asks about desert ........................pay bill, leave
Thinkertoys – False Faces

• False Faces
  – Find ideas by **reversing** conventional assumptions

• Restaurant:
  – Wait to be seated
    • Could we have a restaurant where you don’t wait to sit down?
  – Sit down
    • Could we have a restaurant where you don’t sit down?
  – Server brings menus
    • Could we have a restaurant where you don’t have menus?
  – Server asks for order
    • Could we have a restaurant where there is no choice in food?
  – Order Food
    • Could we have a restaurant where there is no food?
  – ..........pay bill, leave
    • Could we have a restaurant where you don’t pay for food?
Be an Innovator

Choose to do something.
Choose to be special.
A Whack on the Side of the Head
(an exercise)
The Lotus Blossom
Gifts
TO DO

- Prepare Ignite Lincoln talk
- Complete FRA final report
- Pay bills
- Buy wife flowers
- Go to stupid meetings
Adopt a growth mindset.

Put in effort to develop your gift.

Share your gift generously.
Be an Innovator

Give your gift. Be creative. Be generous.
Tool #5: Communication
ERROR #1:
It’s all about me
ERROR #2: The Curse of Knowledge

2.5% vs. 50%
Review of Test Data Indicates Conservatism for Tile Penetration

- The existing SOFI on tile test data used to create Crater was reviewed along with STS-87 Southwest Research data
  - Crater overpredicted penetration of tile coating significantly
    - Initial penetration to described by normal velocity
      - Varies with volume/mass of projectile (e.g., 200ft/sec for 3cu. ln)
    - Significant energy is required for the softer SOFI particle to penetrate the relatively hard tile coating
      - Test results do show that it is possible at sufficient mass and velocity
    - Conversely, once tile is penetrated SOFI can cause significant damage
      - Minor variations in total energy (above penetration level) can cause significant tile damage
  - Flight condition is significantly outside of test database
    - Volume of ramp is 1920cu in vs 3 cu in for test
A Sticky Idea

“...your brother was dead and is alive again; he was lost and is found.”

-Luke 15:32
Sticky Ideas Share Common Traits

1) Simplicity
2) Unexpectedness
3) Concreteness
4) Credibility
5) Emotions
6) Stories
Simple = Core + Clear

Don’t Bury the Lead
If you say 3 things you say nothing
Books?......What are they every going to teach you?
Go!

• You can innovate. We all had crayons & legos & fashion shows.

• Go ahead and make something.
• Make something really special.
• Make something amazing that will blow the mind of anyone who sees it.

• Go change the rules, go raise the bar.
• Give your gift.
....things I think I know.
Angel Investors

• Give back & IRR.
• Help a young person from making the same mistakes.
• Live vicariously through a new business.
Venture Capital

- You’ll do the best when you don’t need them
- Build a business
- Get an intro
- Pitch, Pitch, Pitch
  - Necessary but not sufficient
- Show Traction
  - Revenue.........tests.........prototype.........mom
- Clean up your act
- Disclose Everything
- Tell new “lies”
  - You’re the 10am
“Lies” Entrepreneurs tell VC’s (and themselves)

• Our projection is conservative.
• _________ says our market will be $50 billion in five years.
• (big company) is signing a contract with us next week.
• CXX key employee will join us as soon as we get funded.
• Several investors are already in due diligence.
• (big company) is too big, old, and slow to be a threat.
• Our patents make our business defensible.
• All we need is 1% of the market.
• We have first mover advantage.
• We have a proven team.

The Art of the Start, Kawasaki
You won’t be “discovered”

Nobody suddenly discovers anything. Things are made slowly and painfully. Put in the hours.
Team, Team, Team, Market, Idea
Find a *good* mentor

- UNeMED, NUTech
- Early Investor
- Other Entrepreneurs
work on a problem that matters
Have a plan.
Build Meaning

• Funerals.com
• We put the FUN in funerals
• Tivo
What is it worth?  
*Anything You Want* by Derek Sivers

<table>
<thead>
<tr>
<th>IDEA</th>
<th>EXECUTION</th>
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<tbody>
<tr>
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<tr>
<td>-1</td>
<td>$1</td>
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<tr>
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<td>So-so execution</td>
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<tr>
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Multiply your idea and execution = value

- Crazy uncle Larry says “I had the idea for Ebay way before…..”
  - 20 x $1 = $20

- How about a so-so idea with great execution?