

Cracking the Creativity Code

Arie Ruttenberg & Shlomo Maital



Week Three



Week Three. Preview

3.1 The ZiZoZi method: continued. Zoom in: The role of accidental discovery and serendipity; 3.2 sharpening observation skills; 3.3 empathetic discovery; 3.4 the role of failure in enhancing success. 3.5 Zoom out: Collecting data through direct observation. 3.6 The IDEO approach. 3.7 Zoom in: Taming wild ideas. 3.8 How to ‘sell’ your ideas. 3.9 How to be creative in large organizations. 3.10 What is your ‘story’? Building powerful narratives. Case studies.



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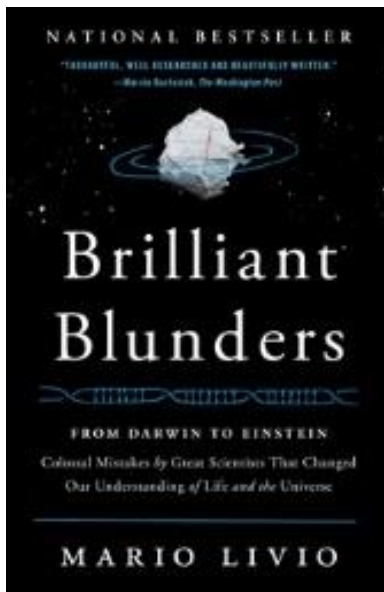
Week Three

Session #1

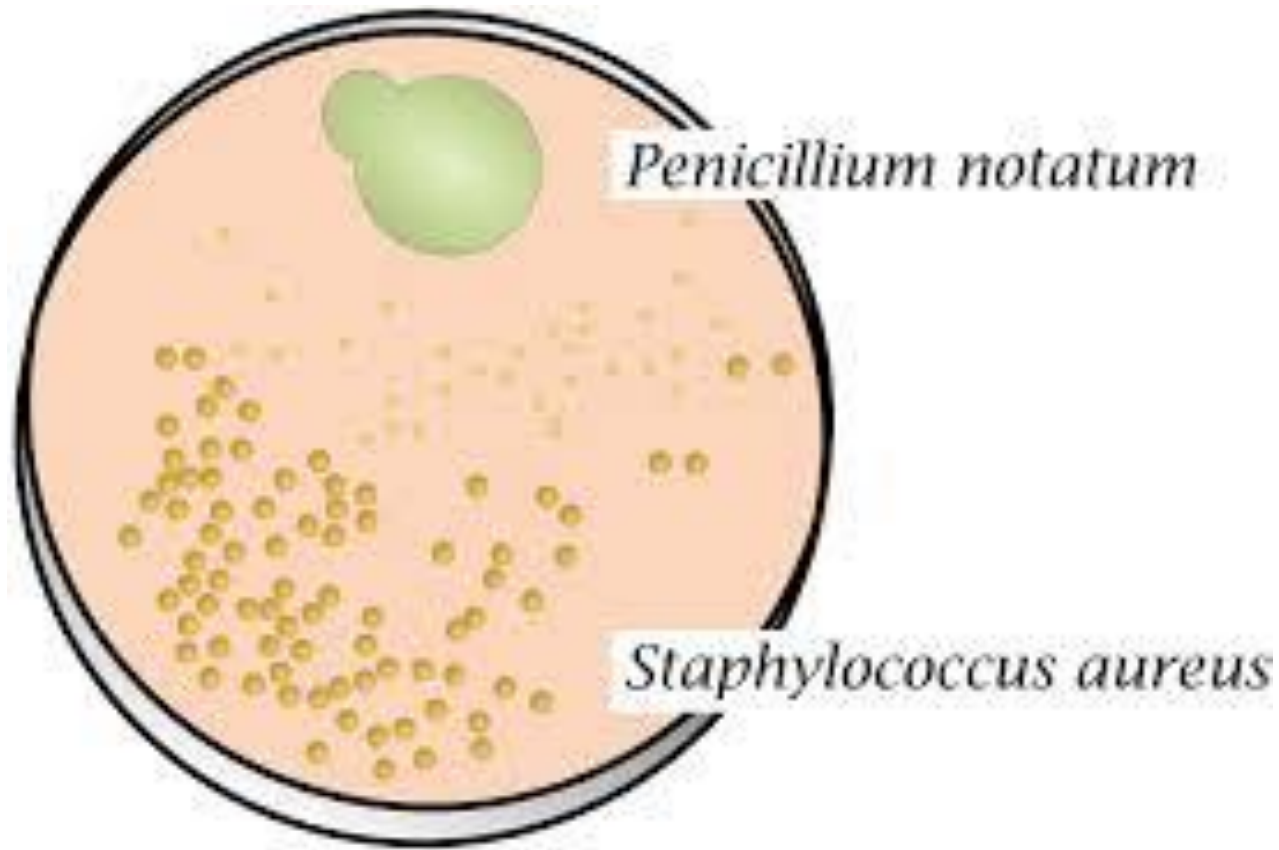
**The ZiZoZi method: continued.
Zoom in: The role of accidental
discovery and serendipity**



**Mario Livio. *Brilliant Blunders From Darwin to Einstein-
Colossal Mistakes by Great Scientists That Changed Our
Understanding of Life and the Universe*
Simon & Schuster 2014**



The key point is that mistakes in any discipline that is based on creative thinking and innovation are not only inevitable, they are an ESSENTIAL part of progress. If not for blunders, we would be traveling for too long down too many blind alleys. Breakthroughs require the willingness to embrace risks and to accept errors as potential portals of discovery.



Alexander Fleming:

There's mould on the Petri dish. Discard it?

Charles Goodyear:

Ooops...spilled rubber and sulfur on a hot stove.

Creativity Code, pp. 60-62

Creativity *demands* that we try things, take risks and...

make frequent mistakes. The greatest risk lies in

never taking ANY risk in our thinking process.

Successful ideas are built on mountains of

failed ideas.

**Louis Pasteur: “Chance favors
the prepared mind”**



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End of Session #1



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Week Three

Session #2

Sharpening observation skills



“They’re not using my product/service the way I intended!”

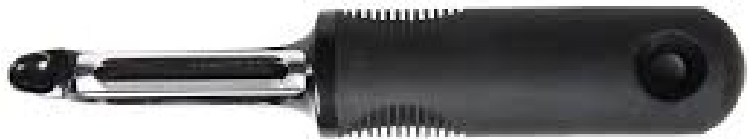


“Follow Me Home”



“Wow! Our users found a terrific solution to a problem that many people haven’t cracked!”

Product Opportunity Gaps: gap between what is now available and what *should* be available based on current trends.



Oxo vegetable peeler

Action Learning

**Spend one day on sharpening your ‘creativity vision’ –
Observe people carefully, find how they ‘work around’
problems and challenges without even being aware of it.**

Can you make ‘penicillin’ out of what seems like mould?



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End of Session #2



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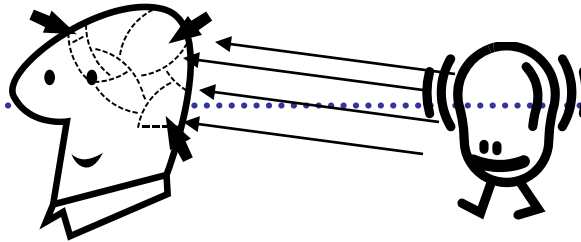


Session #3
Empathic Discovery
(Leonard & Rayport,
“Spark Innovation Through
Empathic Design”
HBR Nov-Dec 1997



em-pa-thy - n. [>Greek, *empathēia*, affection, passion < *en*, in, + *pathos*, feeling;]

the projection of one's personality into the personality of another in order to understand him better;



sym-pa-thy - n. [>Gr. *sympatheia*, < *syn*, together, + *pathos*, feeling;]

sameness of feeling; affinity between persons or of one person for another.



Empathic Design: Listen to your Customers?

“we are so good at overcoming shortcomings of existing products, that we find it hard to enunciate/recognize/verbalize our needs”

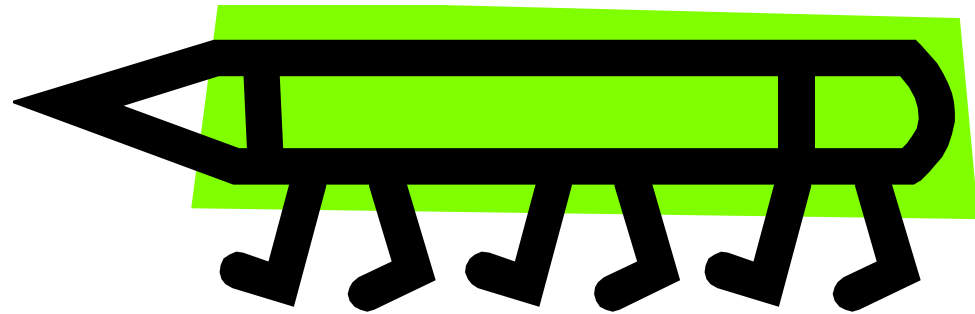
solution:

“the participant observer”



Empathic Success Stories

- IDEO
- Intuit - Quicken: 'follow me home'



Action Learning

Examine each of the following activities “empathically” and come up with ideas for new products that meet needs *not explicitly recognized at present*:

- *drive to work*
- *eating breakfast*
- *sending email*
- *checking voicemail*
- *packing clothes for a trip*
- *travelling*
- *buying a present*
- *preparing a tax return*
- *taking medicine*
- *seeing a doctor*
- *dressing a small child*
- *changing a diaper*
- *finding a wife or husband...*



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End of Session #3



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Session #4

The Role of Failure In Achieving Success



How a failed microprocessor became the fabled Centrino chipset



**How a failed startup
(Modu) created
15 others.**



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End of Session #4



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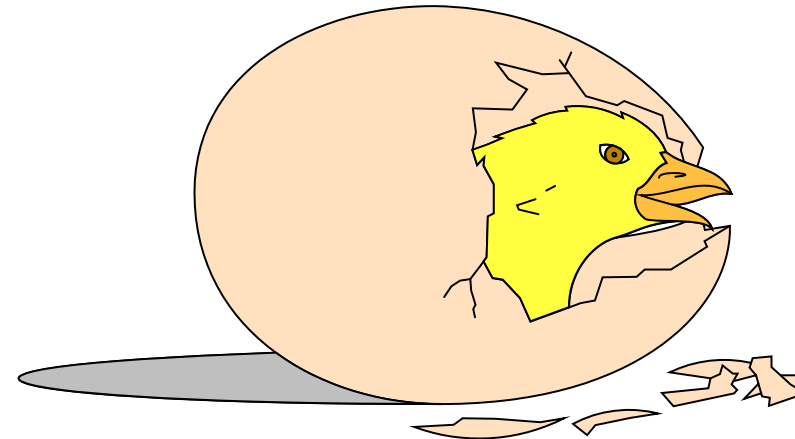
Session #5

**Zoom Out: Collecting data
through direct observation**



5 key types of information

- **Triggers of use**
- **Interactions with user's environment**
- **User customization**
- **Intangible attributes**
- **Unarticulated user needs**



The story of how chewing gum was invented

- **A chance encounter: Thomas Adams, General Santa Anna**
- **Chicle: for automobile tires?**
- **...and a little girl who bought flavored paraffin**



Thomas Adams

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End of Session #5



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Session #6

The IDEO approach



<http://youtu.be/ooN05Q030Qo?list=PL65FF22BBC5A7A59C>



IDEO©

How IDEO (Prof. Dave Kelly) innovated the innovation process



KEY IDEAS FOR TEAM BASED IDEATION AT IDEO

1. Never shoot down an idea when it is just born...
2. Better to ask forgiveness than to seek permission
3. Fail often to succeed faster...
4. Celebrate success... celebrate failure....
5. Bring me data... (anthropology)
6. No hierarchy...
7. Focused chaos...
8. Prototyping...
9. Function follows form...
10. Think in the box...
11. Ambience...
12. “democracy”...
13. Diversity in team membership...



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End of Session #6



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Session #7

Zoom In: Taming Wild Ideas



a You can take tame ideas and make them wilder.



b Or...you can take wild idea and make them tamer and more practical.



Choose b !



ExAblate®

Wild idea:

Let's zap inoperable glioblastoma brain tumors with a 'ray gun' and dissolve them.

Practical idea:

**Insightec: MRI locates, 'lights up' the tumor- ultrasound beam
Heats and dissolves it.**

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End of Session #7



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Week Two

Session #8

How to sell your ideas



Before you try to convince others: Convince yourself!

There are two key mistakes in choosing ideas

Type I error: Discard a GREAT idea!



Type II error: Implement a TERRIBLE idea!



Avoid both, BUT ---

Type II is 100 times worse than Type I.

Why?

Key Points to Consider When “Selling” an Idea

The Need: *Can you show beyond doubt that people need your idea, and that it creates value for them?*

The Difference: *Can you show that your idea creates value 10 times higher than alternatives (not 5% or 10%!)*

The Future: *Can you show that your idea, when successful, will lead to more and better ideas that build on it?*

Cost and Price: *Can you produce your idea at reasonable cost, and at a price that creates value while leaving profit for growing the business?*



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Week Three

End of Session #8



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Week Three

Session #9

**How to be creative
In large organizations
(Intrapreneurship)**



Gifford Pinchot III. Intrapreneuring (1985).

“Intrapreneurship: Acting like an entrepreneur, within a mature organization”



The Intrapreneur's Ten Commandments

- 1. Come to work willing to be fired. 2. Circumvent orders that stop your dream. 3. Do any job needed. 4. Find people to help you... 5. ...and choose the best. 6. Work underground as long as you can. 7. Control your destiny. 8. It is easier to ask forgiveness than to get permission. 9. Be true to your goals, but realistic about how to achieve them. 10. Honor your sponsors**



How (Chuck) House Nearly Burned Down his House

**How Chuck House (Hewlett Packard) defied
Founder Dave Packard: “when I come back next
year I don’t want to see that project in the lab”.**

**House: “If we have it in production before he
returns next year, Packard won’t find it in
the lab.”**



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End of Session #9



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Week Three

Session #10

What is YOUR story?
Building powerful narratives.
Case Studies



Your Personal Creativity Machine (PCM)

Your PCM is your own personal unique method for generating an unending stream of creative ideas.

Write an essay on your laptop, or on paper, as you wish.

- 1. Describe BRIEFLY and TRUTHFULLY your own **Personal** Creativity Machine (PCM). *What is the systematic process you have used, and will use in future, to create imaginative, practical ideas & implement them? Be specific and concrete.***
- 2. State how you validate your innovative ideas and avoid both Type I errors (reject good ideas) and Type II entrepreneurial error (“false negative” – implementing bad ideas)?**
- 3. State how you used your PCM to generate a creative idea.**
- 4. Share your PCM with your discussion group, if you wish.**





"Dragon V2 unveiling, Elon Musk
(KSC-2014-2727)"
by NASA/Dimitri Gerondidakis

The Story of Elon Musk

PayPal

Tesla

Solar City

Space X

The Story of Leslie Buck (Laszlo Buch), b. 1922

**How empathy, keen observation, creativity,
intrapreneurship combine to give the world
.... a better hot cup (Anthora)**



Angela Jimenez for
The New York Times

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End of Session #10



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Week Four Preview



Week Four

- 4.1 Creativity exercises: Are you working out?**
- 4.2 What Scholars Know about Creativity: Research you can use;**
- 4.3 On Being Walter Mitty. Is creativity fun, or painful?**
- 4.4 Life take two: On reinventing yourself and your career.**
- 4.5 Secrets of Einstein, da Vinci and Edison.**
- 4.6 Humble masterpieces: Stories of creative breakthroughs.**
- 4.7 More masterpieces: Creativity in action.**
- 4.8 Ideas proposed by students for the 7 Challenges**
- 4.9 Torrance Test for Creative Thinking: Have you improved?**
- 4.10 Course summary: What have you learned? What have you implemented?
How have you changed?**

Introduction to Cracking the Creativity Code Part Two: Delivering Ideas

