Zig Zag: The Surprising Path to Greater Creativity

By Keith Sawyer

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"Creativity is not a mystery. There are proven techniques for enhancing creativity, and they are within anyone's reach." - Keith Sawyer
Eight Steps to Creativity

1. Ask
2. Learn
3. Look
4. Play
5. Think
6. Fuse
7. Choose
8. Make
Common Pitfalls To Avoid

Mistake #1: Thinking you only need to be creative occasionally

Mistake #2: Thinking there's one great idea out there
Step 1: ASK “HOW THE RIGHT QUESTIONS LEAD TO THE MOST NOVEL ANSWERS”

Find the Question
Generate questions, List all the flaws, and Reinterpret the question

Search the Space
Map your idea, Break down the problem, Challenge your assumptions

Transform the Problem
Worst idea, Work Backwards, Ask Why (x5)
Step 2: LEARN “HOW TO PREPARE YOUR MIND FOR CONSTANT CREATIVITY”

- 10,000 hours to be exceptionally creative ~= 10 years
- Deliberate practice: working on tasks slightly out of reach that are achievable with concentration and feedback
- First practice: Practice deliberately
  - Pursue flow state
  - Focus on specific tasks
  - Reflect
- Second practice: Master your domain
  - Get schooled
  - Adaptive expertise
- Third practice: Learn forever
  - Seek knowledge relentlessly
  - Recruit a mentor
- Fourth practice: Balance specialty with generality
  - Be T-shaped
  - Branch out
Step 3: **LOOK** “HOW TO BE AWARE OF THE ANSWERS ALL AROUND YOU”

- **Trained noticing**
  - Speeds up processes, but can also block sight of unexpected/surprising things
- **First Practice: Use fresh eyes**
  - Actively create new categories rather than relying on existing stereotypes
- **Second Practice: Grab new sights and cool sounds**
  - Consciously introduce new change into your routine
- **Third Practice: Render it visible**
  - Keep an idea log or other way to hold onto new sights and sounds
Step 4: PLAY “HOW TO FREE YOUR MIND TO IMAGINE POSSIBLE WORLDS”

First Practice: Visualize

- Imagining possible futures
- Imagine parallel worlds
- Come up with fantastic explanations
  - Empty your brain
  - Imagine you’re in the stone age and come up with explanations for everyday phenomena (ex: why does it snow?)
- Visualize your space → close your eyes, imagine the space around you, now make it better
Second Practice: Relax

- Allow your mind to wander
- **Incubate** → some of the best ideas come from not working
  - Note this won’t work if you’re on a tight deadline
  - Try taking a walk, working in the garden, painting
- **Leave something undone** → leave a little work unfinished at night, when you come back to it in the morning you’ll have new ideas
- **Still your mind** → try meditating
- **Listen** → listen to the sounds around you (clock ticking, traffic)
Third Practice: Find the Right Box

- Research shows creativity is enhanced by constraints
- **Be specific in the constraints:**
  - Activity: list as many white things as you can
  - Now list as many white, edible things as you can
- **Draw the right box** → solving similar, smaller problems can help you solve the larger problem
- **Create a new box** → come up with your own area of expertise that doesn't take long to master
- **Use every box** → look at things in as many ways as you can
Fourth Practice: Be a Beginner

- Do something new for the first time
- Start a new hobby
- Plan something fun → make a bucket list!

Play is the time for your mind to wander and to let your subconscious do the creative work.
Step 5: THINK “HOW TO HAVE WAY MORE IDEAS THAN YOU’LL EVER NEED”

First Practice: Ideate

- Research shows the key to creativity is quantity
  - Einstein wrote over 240 scientific papers, although many have never been cited
- **Think different** → come up with as many ideas as possible for common items (ex: a brick)
  - Exercise in *divergent thinking*: generating multiple possibilities
  - A long list shows fluency, rarity of ideas shows originality, and unusual uses shows flexibility
- **Try toppling** → toppling is a form of free association (ex: say the first work that comes to mind)
Second Practice: Transform

- How to take ideas you generate and transform them
- **SCAMPER**: Substitute, Combine, Adapt, Magnify or Modify, Put to other uses, Eliminate, Rearrange or Reverse
- **List attributes** → helps to deconstruct the problem and examine attributes of each component
- **Reverse again** → think about the assumptions you’re making and try to eliminate them
  - Write down the opposite of each assumption
Third Practice: Schedule

- **Set an idea time** → set aside a thirty minutes each day to write out ideas
- **Set an idea quota** → force yourself to come up with ten ideas each day
  - Pose a specific problem on Mondays and come up with solutions for that problem for the rest of the week

The steps from this chapter, when used with the previous four steps, will help you come up with some surprising new ideas.
Step 6: FUSE “HOW TO COMBINE IDEAS IN SURPRISING NEW WAYS”

First Practice: Force-fuse

- Make remote associations → combine very different ideas
  - Gutenberg invented the printing press using a wine press and coin punch
- Cook on all burners → work on multiple projects at once
  - If you get stuck, switch to another project
  - The best ideas come from combining multiple projects
Second Practice: Make Analogies

- **Use direct analogy** → practice creating analogies using random objects
  - Focus on structure and purpose, not just appearance
- **Mimic nature** → draw connections between natural processes and man-made solutions
  - Sonar used in submarines is inspired by dolphins, whales
- **Use personal analogy** → imagine you are the product
  - What are your pain points?
Third Practice: Do a People Mash-Up

- **Talk to someone different** → gain insight from different perspectives
  - Meet with someone else or imagine you are a different person
- **Crash a meeting** → attend a group meeting you’ve never been to before
  - City town hall, school board meeting, etc
  - Observe people’s behaviors and dynamics
- **Work in the intersection** → place yourself in a location around others
  - Increase your odds of encountering people to talk about your ideas with
Step 7: CHOOSE “HOW TO PICK THE BEST IDEAS AND THEN MAKE THEM EVEN BETTER”

First Practice: Know What You’re Looking For

- **Train your intuition** → trust the beauty you sense in a good idea
- **Color your choices** → use the color grid to organize ideas
First Practice: Know What You’re Looking For

- **Go for simple, elegant, robust** → a solution must embody all three of these principles
  - Simplicity - The design is minimal and expresses the essence of the problem
  - Elegance - Doing the most with the least
  - Robustness - Continues to work under adverse conditions or incorrect use

- **Check your ideas** → ask yourself about the viability of your solution
  - Is there a market for it?
  - Can we do it (or make it)?
  - Can we make money at it?

- **Define greatness** → get specific to your product’s domain
Second Practice: Host an Idea Competition

- **Look at the differences** → find the differences between pairs of ideas
  - Ask yourself, how is this difference important?
- **Map the grid** → create a grid of the important criteria and rate your ideas
  - Give each criteria a rating of importance between 1 and 10
  - Create a grid with the criteria as columns, your ideas as the rows
  - Each cell contains a number from 1 to 10, stating how well that idea satisfies the criteria
  - Multiply the each cell value by the importance of the column it is in
  - Final idea score is the sum of all cells in the row, highest score wins
Second Practice: Host an Idea Competition

- **Draw an affinity diagram** → sift through a lot of ideas, 50+
  - Write each idea on an index card and cluster similar ones
  - Identify what each cluster has in common and name it
  - Identify differences within a cluster

Third Practice: Look Past the Good

- **Pros and cons** → determine the pros and cons, then score them 1 to 10
  - The point total for the pros should be much higher than the cons
- **Find worst-case scenario** → be creative and broad
  - What sequence of events could cause this scenario?
Fourth Practice: Edit, Revise, Improve

- **Identify three benefits** → start with an idea you like, but are unsure about
  - List three benefits and three practical steps
- **Find the fatal flaw** → the idea with the flaw that is easiest to overcome is the best one
- **Be the devil’s advocate** → focus on everything that is wrong with your idea
- **Reformulate, reuse, reperceive** → if an idea fails, try to repurpose it
  - Consider the parts of the idea and how they related to the whole
Step 8: MAKE “HOW GETTING YOUR IDEAS OUT INTO THE WORLD DRIVES CREATIVITY FORWARD”

First Practice: Draw It

- **Draw a picture** → nothing is too abstract to draw
- **Collaborate** → bring together a group of designers and have everyone draw a solution to a problem
  - Hand sketch around circle, each taking 5 minutes working on it
Second Practice: See It

- **Take a photo** → take at least 10 photos a day for a week of something within the same theme
- **Gather photos**
- **Make a collage** → keep the collage somewhere you will see it every day
Third Practice: Build It

- **Try doing it quickly** → build idea in 10 minutes or less
- **Construct it** → use children’s construction toys to build it
- **Visit a craft store** → don’t plan a shopping list
Fourth Practice: Make It Concrete

- **Make a flowchart** → show decision points
- **Map the journey** → visualize events by the time they occur
- **Sing it**
- **Act it out**
Fifth Practice: Reflect On It

- Be a pack rat → keep the things you made from the last four steps around
- Reflect on the things you’ve saved
- Show people what you made

“You are never finished. The zig zag path is one of constant evolution, ever-present change”
Bringing the 8 Steps Together

Creativity isn't a linear process!

Start with one step at a time, until you are comfortable repeating and innovating with all eight steps.
Creativity As A Way of Living

- Be Incremental and try each step once a day
- Practice these steps to become comfortable with them
- Reflect on what you are doing at a given time
- Remember creativity is not a linear process
- Review and Improve
Thanks for listening!

Q & A

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