Notes on "Zig Zag" by Keith Sawyer

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Ask

(a) **Find the question**: Try Ten Questions, Find the Bug, Reinterpret, Rise to the Occasion

(b) **Search the Space**: Break It Down, Draw a Fishbone, Map Your Idea, Challenge Your Assumptions

(c) **Transform the Problem**: Reverse, Go Back From the Future, Pick the Worst Idea, Stretch and Squeeze

Learn

(a) **Practice Deliberately**: Challenge Yourself, Focus on Specific Tasks, Reflect

(b) **Master Your Domain**: Get Schooled, Go for Deeper Understanding, Apply What You Know to New Situations

(c) **Learn Forever**: Seek Knowledge Relentlessly, Customize Knowledge, Read a Book, Stay Current, Recruit a Mentor

Look

(a) **Use Fresh Eyes**: Become More Aware, Make Your Own Luck, Look for New Patterns, Cultivate Your Senses, Practice Ethnography, Look for Serendipity, Spot the Spandrels, Switch Perspectives

(b) **Grab New Sights and Cool Sounds**: Start Tripping, Relax and Listen, Play with Children's Toys, Shape Your Day, Remember to Look at Bad Examples, Flip Trhough Strange Magazines, Absorb New Media, Go Walkabout, Travel

(c) **Render It Visible**: Keep an Idea Log, Start and Idea Box, Set a Google Alert, Create a Personal Hall of Fame, Appoint a Personal Board of Directors

Play

(a) **Visualize**: Imagine Parallel Worlds, Come UP with Fantastic Explanations, Envision What's Below, Follow the Long Arrow, Explore the Future, Visualize Your Space

(b) **Relax**: Incubate, Leave Something Undone, Still Your Mind, Listen

(c) **Find the Right Box**: Be Specific, Draw the Right Box, Create a New Box, Use Every Box

(d) **Be a Beginner**: Do Something for the First Time, Start a New Hobby, Plan on Fun

Think

(a) **Ideate**: Think Different, Try Toppling

(b) **Transform**: SCAMPER (Substitute, Combine, Adapt, Magnify or Modify, Put to other uses, Eliminate, Rearrange or Reverse), List Attributes, Reverse Again

(c) **Schedule**: Set an Idea time, Set an Idea Quota

Fuse

(a) **Force-Fuse**: Make Remote Associations, Combine Concepts, Cook on All Burners

(b) **Make Analogies**: Use Direct Analogy, Mimic Nature, Use Personal Analogy

(c) **Do a People Mash-Up**: Talk to Someone Different, Crash a Meeting, Work in the Intersection

Choose

(a) **Know What You're Looking For**: Train Your Intuition, Color Your Choices, Go for Simple, Elegant, Robust, Check Your Idea, Define Greatness

(b) **Host an Idea Competition**: Look for Differences, Map the Grid, Draw an Affinity Diagram

(c) **Look Past the Good**: Consider Pros and Cons, Find the Worst-Case Scenario

(d) **Edit, Revise, Improve**: Identify Three Benefits, Fix the Fatal Flaw, Be the Devil's Advocate, Reformulate, Reuse, Reperceive

Make

(a) **Draw It**: Draw a Picture, Collaborate

(b) **See It**: Take Photos, Gather Photos, Make a Collage

(c) **Build It**: Try Quick and Dirty, Construct It, Visit a Craft Store

(d) **Make it Concrete**: Chart the Flow, Map the Journey, Sing It, Act It Out

(e) **Reflect on It**: Be a Pack Rat, Figure Out Origins, Show and Tell

	Creative Problem Solving (Isaksen, Dorval, & Teffinger, 2000)	IDEAL cycle (Bransford & Stein, 1993)	Sternberg (2006)	Possibility Thinking (Burnard, Craft, & Grainger, 2006)	Qualifications and Curriculum Authority (QCA, 2005)	Synectics (Gordon, 1961)	Mumford's Group (Scott, Leritz, & Mumford, 2004)	IDEO (Kelley, 2001)
Ask	Framing Problems	Idenfity Problems	Redefine problems	Posing questions	Questioning		Problem finding	
Learn	Exploring data	Learn	Know the domain			Groundwork	Information gathering	
Look		Look		Immersion	Envisaging what might be	Immersion		Observation
Play	Constructing opportunities	Explore possible strategies	Take time off	Play	Keeping options open		Concept search	
Think	Generating ideas		Generate ideas	Being Imaginative	Exploring ideas	Divergent exploration	Idea generation	Brain-storming
Fuse	Developing solutions		Cross-fertilize ideas		Making connections and seeing relationships		Conceptual combination	
Choose			Judge ideas		Reflecting critically	Selection	Idea evaluation	
Make	Building acceptance	Act and anticipate outcomes	Sell the idea, preserver	Self-determination		Articulation of solution, development and transformation	Implementation	Rapid prototyping