Innovative Problem-Solving

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Developing a Framework for Driving Creativity *(from Disciplined Dreaming)*

Objectives of today's session:

Professional Developer Skills Objectives:

- Develop a framework for building your creativity
- Identify a problem you'd like to solve
- Utilize a strategy for preparing to be creative
- Decide on an idea and understand next steps for personal project and/or side projects

How does this connect to your professional development?

- Understand and demonstrate the difference between a fixed mindset and a growth mindset
- Make connections between habits of creativity and habits of programming
- Increase ability to tolerate ambiguity
- Increase your support of each other by learning more about each other
- Combat Impostor's Syndrome by discovering tools to use your new programming knowledge in different ways

Small Group Discussion

- Why are you moving to a career in software? In what areas, are you most interested exploring with the apps that you build?

- What does creativity mean to you?

- What barriers do you feel there are to your sense of creativity?

When thought leaders were asked to define creativity...

"The ability to build something from nothing." -- Ted Murphy, founder and CEO, Izea.com

"More of a feeling of inspiration. Being audacious, wild. Allowing yourself to be vulnerable and giving yourself freedom to be inspired." -- Jeff Bennett, founder and CEO, OtterBase

"The proactive ability to think through, weigh, and judge alternatives to problem solving. Seeing multiple ways of viewing things." -- Lisa Vallee-Smith, founder and CEO, Airfoil Public Relations

"Problem solving. You can be creative in how you polish your shoes. It is the approach you take." -- Ernie Perich, found and CEO, Perich & Partners

"The basis is curiosity. Structuring unstructured things. The ability to tolerate ambiguity and create something new that is not patently obvious." -- Steven Bean, CEO, Universal Laundry Systems

Creativity is a Muscle

"Studies have shown that creativity is close to 80% learned and acquired." -- According to Harvard Business School professor Clayton Christensen in his paper "The Innovator's DNA," *Harvard Business Review*, Dec. 21, 2009.
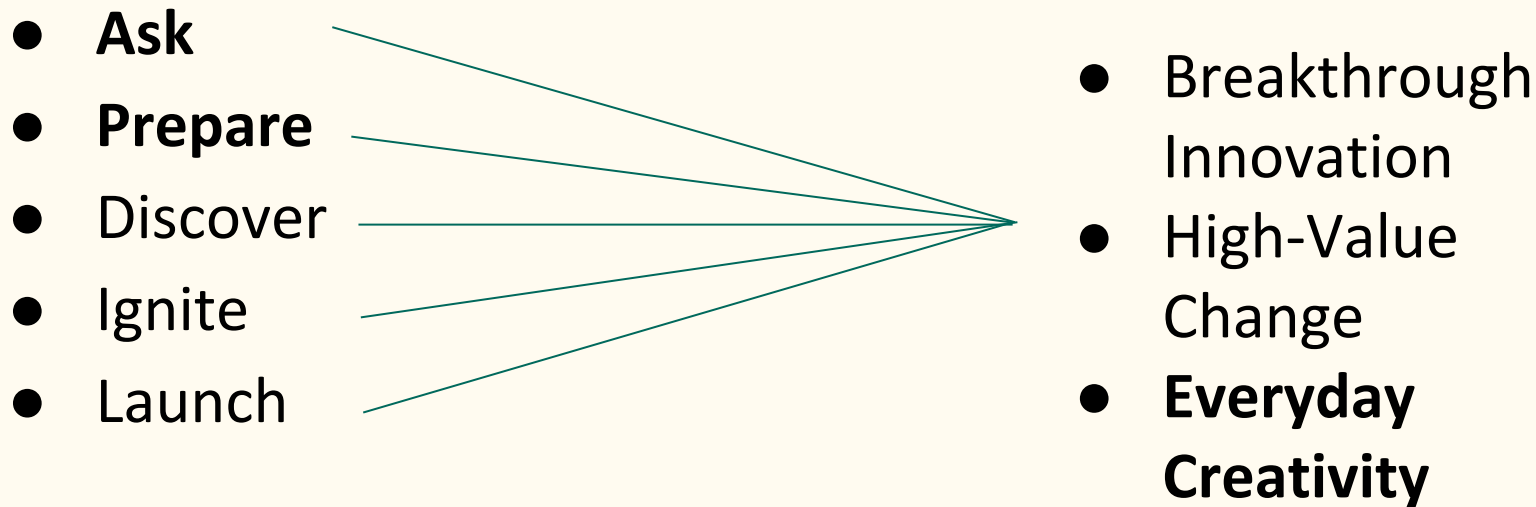
Therefore, creativity is (mostly) not an inherent talent.

Creativity is developed.

Framework for Driving Your Creativity

From *Disciplined Dreaming* by Josh Linkner

- **Ask**
- **Prepare**
- Discover
- Ignite
- Launch

- Breakthrough Innovation
- High-Value Change
- **Everyday Creativity**

Step 1: Ask

Ask: Identify and clearly define the problem you want to solve. Ask questions, explore possibilities, and awaken curiosity and awareness. Start with the **3 Magic Questions**:

- Why?

  To discuss how things are done now

- What if…?

  To explore fresh possibilities

- Why not…?

  To understand constraints

Ask: Partner Activity

Find a partner. Choose a company to discuss.

1. What problem is this company solving? Who is the target audience?
2. **Why** this approach?
3. **What if** another approach was tried *(what other ways are there to solve this problem)*?
4. **Why not** do it this way *(what constraints are there? How could you get around those constraints)*?

Ask Debrief

Whole Group Discussion:

- What answers did you come up with to those questions?
- What new approaches did you discuss?
- How was your experience with the questioning from your partner?
- How does looking at how current companies do things help you come up with new ideas for solutions?

Ask Debrief & Next Steps

Individual Reflection (in your journal):

- What is a problem I want to solve in my personal project? What solutions have I come up with? Who is my target audience?
- Why? (*Why is this the problem I want to address? Why is this the approach I want to take?*)
- What if? (*What if I tried something different that hasn't been done before?*)
- Why not? (*Consider the constraints of 2 weeks and the project spec*)

Extensions:

- Complete the Creativity Brief (or Creativity Brief Lite)

Step 2: Prepare

Prepare: Make sure you're ready to meet the challenge you've identified. Prepare every aspect of your mind, body, and environment to support maximum creative performance.

What helps you think of your best ideas and work your best? What environment helps you think best? How can you simulate that here with your peers?

Beware of these pitfalls during this step:

- Groupthink
- Distractions
- Over-editing

Prepare: Small Group Activity

In a new small group, brainstorm answers to this question:

"What are 5 ways we could improve education in our nation?"

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Prepare Debrief

- What was this experience like?
- What could be done to encourage risk-taking amongst your teams in the future?
- What kind of set-up or culture would you need to establish within a team or within an organization?

Prepare Debrief & Next Steps

Individual Reflection (in your journal):

- What or who has blocked your creativity in the past?
  - Think about your environment, the people you've asked advice of, your habits.
- What inspires you?
- What does it mean to be in an environment that encourages risk-taking? How can you create that kind of environment for yourself?

Next Steps:

- Allow yourself time to brainstorm outrageous ideas -- ones that may not work at first glance. Run with those ideas, exploring them until they "fail." Reflect on how this process helped you take risks. *Remember this is part of the process.*

Next Steps in the Framework

After **Ask** and **Prepare**:

- **Discover:** Explore every avenue that might lead to creative ideas. Break free of the straitjacket of "We've always done it that way" or "This is our usual approach."
- **Ignite:** Allow your ideas to flow freely in order to see what sparks. Follow the [12 Ways to Strike Sparks of Creativity](#) or the 8 Commandments of Ideation to turn those sparks into fires.
- **Launch:** Put your creative ideas into action by selecting your best ideas, determine key metrics for measurement, and build an action plan to bring your ideas to life.

Putting it all together

Ask → Prepare → Discover → Ignite → Launch

Next Steps before diving into your personal projects:

- Check out the Creativity section on the [Professional Skills repo](#) for activities to stimulate the Discover, Ignite, and Launch pieces of this framework

Extensions:

- [Automatic Creativity: How to Make Creative Thinking into a Habit](#)
- [TED Talk from Elizabeth Gilbert: "Your Elusive Creative Genius"](#)
- [Fear is Boring, and Other Tips for Living a Creative Life](#)
- [TED Talk from Adam Grant: "The Surprising Habits of Original Thinkers"](#)

> "We are what we repeatedly do. Excellence, then, is not an act but a habit." -- Aristotle

Tips to Keep in Mind

- **Tolerate ambiguity.** If you haven't arrived at an answer, you aren't done ideating yet.
- **Avoid "right" and "wrong" answers.** Focus more on the questions than the answers.
- **Accept ruts and grooves.** This is about the process; outcomes will come later
- **Listen.** Clear your mind and listen: to what others say, what they don't say, what the environment tells you.
- **Don't be rigid or stubborn.** Be willing to accept new ideas.
- **Seek input.** Don't limit your sources -- the more diverse sources you consider, the more possibilities there will be.