Divergent Thinking

Divergent thinking is a process of generating multiple ideas, solutions and possibilities on demand. In this process, individuals or groups become deliberately creative and open themselves up to breakthrough thinking.

Divergent thinking is a broad search for many diverse and novel alternatives.
Diverging to **Clarify**

**Divergent** thinking can also be used to help **clarify**, **formulate** or **reframe** the challenge in order to decide what problem the team will solve.

The language we use to describe a problem will determine how we will go about solving it.

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**Ground Rules for Divergent Thinking**

- Defer judgment...All evaluation is ruled out.
- Strive for Quantity...More ideas increases the likelihood of generating/developing useful ideas.
- Build on other ideas...How can ideas be extended or combined?
- Seek novelty...It is easier to tame a wild idea.
**Convergent Thinking**

Convergent thinking involves the delicate task of judging and making decisions. Done right, fledgling and underdeveloped ideas that might otherwise be overlooked or dismissed stand the chance of being developed into robust and brilliant solutions.

Convergent thinking is a focused affirmative evaluation of alternatives.

**Guidelines for Convergent Thinking**

- Apply affirmative judgement...Carefully consider the strengths of an idea.
- Be open to novelty...Entertain highly original options that you might otherwise eliminate.
- Be deliberate...Consider what is realistic, useful or that can be improved upon.
- Stay on course...Keep the original goal in mind.
The Creative Problem Solving Model

- Universal and intuitive
- Research based
- Distinct steps
- Unique thinking skills

Clarify
Exploring the vision & identifying the challenge

Ideate
Generating ideas

Develop
Transforming solutions & bringing ideas to life

Implement
Exploring acceptance & formulating a plan

Clarify: Exploring the Vision

**Purpose:** Develop a vision of a desired outcome.

**Cognitive Thinking Skill:** Visionary Thinking
Articulating a vivid image of what you desire to create.

**Affective Skill:** Dreaming
Imagining as possible your desires and hopes.

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Clarify: Identifying the Challenge

**Purpose:** Identify the gaps that must be closed to achieve desired outcome.

**Cognitive Thinking Skill:** Strategic Thinking
Identifying the critical issues that must be addressed and pathways needed to move toward desired future.

**Affective Skill:** Sensing Gaps
Become consciously aware of discrepancies between what currently exists and is desired or required.
Ideate: Exploring Ideas

**Purpose:** Generate novel ideas that address important creative questions and challenges.

**Cognitive Thinking Skill:** Ideational Thinking
Producing original mental images and thoughts that respond to important challenges.

**Affective Skill:** Playfulness
Freely toying with ideas.

Transformation: Transforming Solutions

**Purpose:** Move from ideas to solutions.

**Cognitive Thinking Skill:** Evaluative Thinking
Assessing the reasonableness and quality of ideas in order to develop workable solutions.

**Affective Skill:** Avoiding Premature Closure
Resisting the urge to push for a decision.
Implementation: Exploring Acceptance

**Purpose:** Increase the likelihood of success and buy-in.

**Cognitive Thinking Skill:** Contextual Thinking
Understanding the interrelated conditions and circumstances that will support or hinder success.

**Affective Skill:** Sensitivity to Environment
The degree to which people are aware of their physical and psychological surroundings.

Implementation: Formulating a Plan

**Purpose:** To develop an implementation plan.

**Cognitive Thinking Skill:** Tactical Thinking
Devising a plan that includes specific and measurable steps for attaining a desired end and methods for monitoring effectiveness.

**Affective Skill:** Tolerance for Risks
Not allowing yourself to be shaken or unnerved by the possibility of failure or setback.
Process Groups

Initiating: Casting a vision for what will be accomplished throughout the duration of that project.

Planning: Taking the broader ideas established within the initiating stage and defining and refining them in greater detail.

Executing: Coordinating people and resources to carry out the project.

Monitoring & Controlling: Identifying and troubleshooting problems as they arise and adjusting when needed.

Closing: Formulizing the acceptance and closure of the project.
Knowledge Areas

• Cover the 10 core components of projects
• Provide a framework
• Not every project will employ all the knowledge areas
• When considered and applied in practice across the process groups project success increases

Knowledge Areas

I saw six cars quickly ram Carl’s rear passenger side.

Integration Management  Resource Management
Scope Management  Communications Management
Schedule Management  Risk Management
Cost Management  Procurement Management
Quality Management  Stakeholder Management
**Integration Management**

- Outlining the project: Charter
- Coordinating the tasks that hold the whole project together
- Doing the work
- Managing the working
- Monitoring the work
- Making adjustments
- Incorporating adjustments to plan and work
Charter: A Project Roadmap

- Business need - Context...why the need and what’s the rationale?
- Project Sponsor - Who is the lead and has authority to embark on this pilot?
- Project name - What are we calling this new respite project?
- 10K Scope - What will you create?
- 10K Cost - What budget information can you provide?
- 10K Timeline - What are the proposed start and end dates and milestones?
- 10K Risk - Any anticipated issues or known concerns?
- Assumptions - With whom will you collaborate?
- Project Success - How will assess success of the pilot?

Integration Management

- When thinking about all the knowledge areas that are included your respite pilot project, how will you coordinate all the necessary activities?
- Of all the things your pilot could be, could offer, could provide, how did you decide what it will and will not do, offer, provide?
- Along the way, your team may discover new information that makes it impossible for them to complete the respite pilot program as originally planned. What consideration have you given to responding and incorporating necessary changes?
Integration Management

➢ What might be all the ways to monitor progress along the way both in the proposal submission and pilot project implementation?
➢ How might you decide what changes to the pilot project are acceptable?
➢ There will be learning along the way that could be of assistance to you and/or other in future work and endeavors. What considerations will you give to capturing and sharing these insights?

Integration Management

➢ What might be all the conditions outside of the team’s control?
➢ What practices exist that you might leverage and/or employ in your proposal and pilot program?
Scope Management

- Outlines the work and deliverables that will be required to complete the project
- Collecting stakeholders’ requirements and expectations
- Defines success criteria
- Breaking the scope down into manageable components
  - What are the specifications of the new respite idea?
  - What do we need to do to “pull off” establishing this new idea?

Schedule Management

- Dividing the project into tasks, which are scheduled with start dates and deadlines
- Sequencing Activities - Determining the order and dependencies between the activities
- Estimating Activity Durations - Estimating the required time to perform each activity
- Developing the Schedule - Once the duration of each activity, (and the resources are known to complete it) the schedule can be developed
Cost Management

- Forecasting the cost of each step of a project and even including budgeting for mishaps or compensating for any foreseeable obstacles
- Considering the cost of the human and physical resources and when those costs will be incurred
- Estimating costs of each activity to complete the project
- The ideal sequence is to plan SCOPE, SCHEDULE, RESOURCE then COST
- For increased precision, estimate costs from each activity in the WBS and roll up to the project level
- The project budget is comprised of all the activities in the WBS

Quality Management

- Safeguards against subpar deliverables by establishing quality standards for the project...in advance
- Determining the degree to which the project fulfills requirements and satisfies the needs for which it was undertaken...Did we build the thing right?
- Committing to continuously improving processes - However small, no matter who
Resource Management

- Focusing on resources used to complete the project including human capital and any equipment/supplies that will be used to complete tasks
- Managing, leading and developing the team
- *Estimating time needed for each resource (human and supply)*
- Assigning personnel responsible for project deliverables – Responsibility Matrix

Communications Management

- Determining who needs what information, who will share it with them and how
- Setting up a communications plan and maintaining the necessary lines of communication within the team and across stakeholders
- Strategizing communications for project and stakeholder needs
- Identifying the number of communication channels
- Determining communication methods
Risk Management

- A risk is an uncertain event or condition that, if it occurs, has a positive or negative effect on a project's objectives
- Identifying risks (positive and negative)
- Quantifying and qualifying risks
- Planning risk responses
- Determining the depth of a risk register

Procurement Management

- Performing the work necessary to purchase or acquire products, services, or results needed from outside of the project team
- Understanding two key roles: buyer and seller
- Determining how to solicit
- Applying the best contract strategy for the project need
Stakeholder Management

- Identifying all possible stakeholders - Anyone positively or negatively impacted by the project
- Assessing stakeholder role and desired outcome on the project and setting clear expectations
- Managing stakeholder satisfaction throughout the project
- Analyzing and documenting the relevant information regarding stakeholder interests, involvement, interdependencies, influence and potential impact on project success
- Creating a stakeholder registry

Warm Ups

- To briefly train you in the tool we will be using
- To “sanction” the time for speculation
- To create a judgment free zone
- To prep for the “real” work!
Tools Covered

- Brainstorming
- Forced Connections
- Highlighting (H/C/R)
- Word Dance
- Story Boarding
- Creative Questions (H2, HM, IWW, WMBAT)
- Brainwriting
- Card Sort
- Pluses, Potentials, Concerns, Overcoming Concerns (PPCo)
- Sequencing

Stick’em up Brainstorming

- Write your idea on a Post-it
- Say your idea/creative question out loud so that others in the group can hear it
- Stick your idea/creative question on the chart paper
- Hand you idea/creative question forward
- One idea/creative question per Post-it
Forced Connections

The goal is to force a connection between two totally unrelated things, the prop and the challenge, to stimulate thinking and create more ideas.
These new ideas are often more novel and unusual.

Highlighting

1. Mark the “Hits”
   - Interesting
   - New insight
   - Workable
   - Solves the problem
   - Promising direction
   - Feels good in your gut

2. Cluster the related “hits” together

3. Restate the cluster to capture its essence and state as an action or creative question
Word Dance: Musical Chairs with Words

Divergent tool to generate substitute phrases, nouns, verbs for alternative meaning-making and representation.

Identifying Future Opportunities with Storyboard!

1 Current reality

2

3

4 I wish...

5

6 vision

It would be great if....
Creative Questions

• How to...(H2...)
• How might...(HM...)
• In what ways might...(IWWM...)
• What might be all the...(WMBAT...)
Card Sort

Card sort is a convergent tool that helps you compare, rank and prioritize. It can be used to rank requirements, ideas, solutions, creative questions or criteria. Card sort also helps you to generate group consensus. This tool is best suited for prioritizing up to 15 options.

Pluses, Potentials, Concerns, Overcoming Concerns (PPCo)

1. **Pluses**: Find value in the idea – express what you like about it.
2. **Potentials**: What opportunities might be possible if the idea worked?
3. **Concerns**: Present issues as creative questions to invite new thinking.
4. **Overcoming concerns**: Brainstorm ways to overcome stated challenges.
### Evaluation Matrix

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<thead>
<tr>
<th>Options</th>
<th>Criteria</th>
<th>Decision</th>
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<tr>
<td></td>
<td>$250,000</td>
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<td>D C D E</td>
<td>B D</td>
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<td>160 W. Main</td>
<td>E E E E</td>
<td>B B</td>
</tr>
</tbody>
</table>

**Rating Scale:**
- E = Poor
- D = Not good
- C = Okay
- B = Good
- A = Excellent

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### What is going to be done? Who will do it? By When? Support/Report?

**Short Term Actions:**
(Next 10 days)

**Intermediate Actions:**
(Three months)

**Long Term Actions:**
(4 months and ongoing)

**Imminent Term Actions:**
(Within 10 days)