CREATIVITY

A QUICK GUIDE

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Introduction

The concepts presented in this guide give educators and creative directors an introduction to the core principles of teaching for creativity. The goal in developing this guide is to offer valuable and practical findings from both research and our direct experience as educators and professionals.

The concepts herein present various approaches to building creativity. These approaches are based on the way the creative process is used to achieve intended outcomes in various domains. We also present other elements of creativity which can positively affect the creative output in learning and working environments. We hope to inspire you to read further on this topic and explore the possibilities that teaching for creativity may have in store for you.

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creativity defined

Take a broad look at creativity from the perspective of those who have studied and practiced innovation in different disciplines. Just as there isn't one discipline that builds upon creativity, there isn't one definition that describes creativity; it exists in all domains and it is expressed differently in every individual. Creative potential is in everyone.

> Creativity is seeing what others see and thinking what no one else has thought.

Albert Einstein
Physicist (1879 - 1955) who's use of thought experiments, a creative thinking technique, helped him to develop the theory of relativity.

An approach to innovation and a way of looking at the world through other people's eyes: it draws inspiration from empathy.

Creativity comes from looking for the unexpected and stepping outside your own experience.

Creativity is not always something to do with the arts or writing, It has to do with the way you carry your life.

Design is largely about identifying problems and not solutions.

+ **Tim Brown**
  CEO and president of the design and innovation firm IDEO which designs products, services, environments, and digital experiences.

+ **Masaru Lbuka**
  Electronics industrialist who co-founded what is now Sony.

+ **Isabel Allende**
  Writer and novelist whose work is considered amongst the most read of Spanish language authors.

+ **Steve Bell**
  Librarian at Temple University's Paley Library and a frequent writer on design thinking.

creative categories

Creative thinking can transcend personal application and give rise to outcomes with global impact. When creative potential is unleashed, individuals have the power to leave an indelible mark on the creative collective. Distinguishing the categories of creativity brings awareness to the transition between creative acts with personal value and those with global value.

INDIVIDUAL

Consciously applying the creative process to problem solving in your own life can develop your ability to conceive creative solutions on a larger scale.

Value

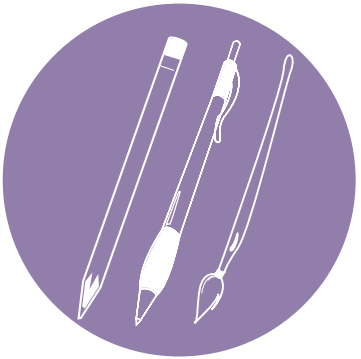
- Self-esteem
- Sense of accomplishment
- Inspires further creativity
- Encourages collaboration
- Helps build-up to peer level of creativity

PEER

Introducing healthy competition by looking at your work in relation to that of your peers. In this category of creativity, your creative acts begin to influence and inspire you and your peers.

Value

+ Understanding creative value beyond self-benefit
+ Improved quality output
+ Inspires those around you



DOMAIN

Creating within a domain demands high level of interdisciplinary collaboration. A deep level of empathy and a clear vision of the impact of your creative act is necessary.

Value

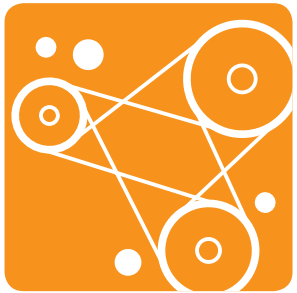
+ Evolving a particular domain such as education, medicine, science, or design
+ Encourages innovation and evolution of ideas within domains
+ Enhances solutions to human centered problems

HISTORIC

The historical category of creativity requires a contribution new and original to humanity. By transcending the ordinary, these creative contributions affect all aspects of society.

Value

+ Moves society forward
+ Improves the human condition
+ Inspires organizations to produce valuable innovations



creative process

The creative process is a method of solving problems big and small, ordinary or complex. Think of the creative process as a tool kit that contains everything you need to approach and solve any problem-in any subject. From drafting a research paper to planning an event to designing a brochure, the creative process makes all the difference.

> The Creative Process has had more impact, power, influence, and success than any other process in history.
>
> —Robert Fritz

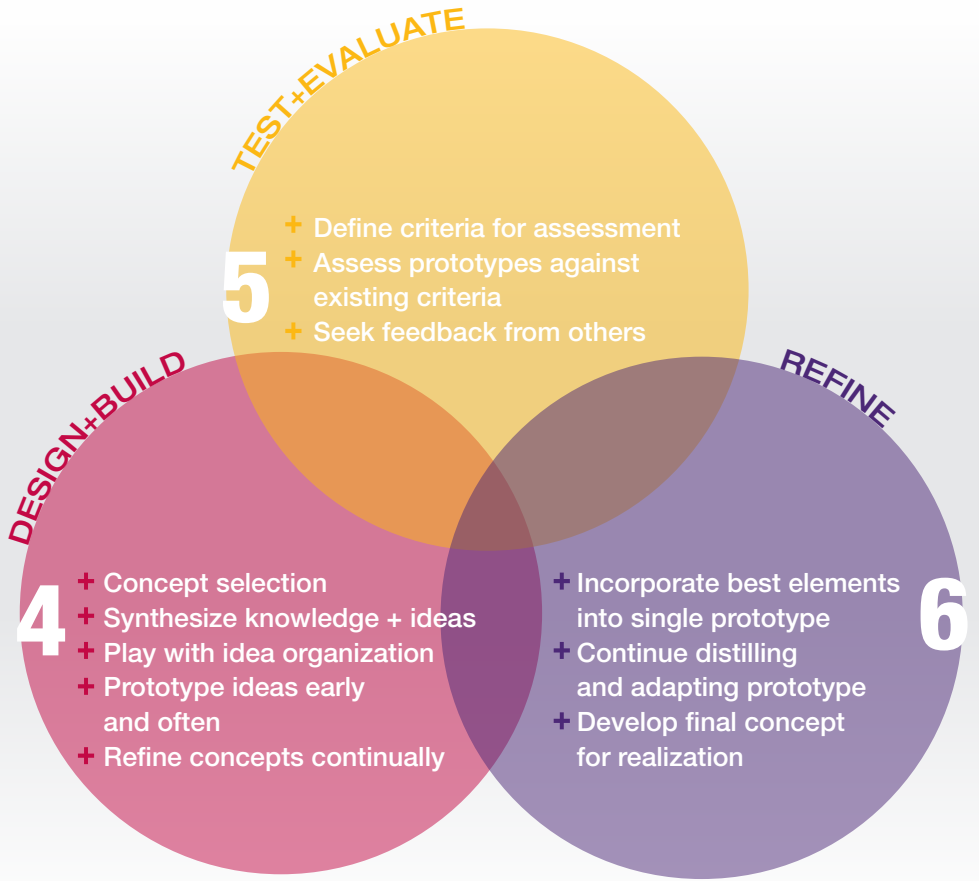
creative process

Quick Tips

- Don't worry if you don't have all the answers; they may come in later stages in the process
- Consider crazy ideas; don't be afraid of risk-taking
- Allow idle time to just think and let ideas marinate, individually and collaboratively
- Collaborate with other people. Ideas germinate best when working together
- Interact with tangible things
- Design is as much cyclical as it is linear; move back and forth between steps until you're ready to move on

PHASE I

PHASE II



Key Terms

Streaming Word List
For five to ten minutes, continuously record keywords and thoughts that materialize. Don't stop writing for more than a few seconds. Don't censor yourself. If you draw a blank, quickly glance at what you have written to spur new thoughts.

Prototype
Refers to any working model, from the outline of a paper to a hypothesis for a science project to computer simulations.

Implementation
Put prototype into practice and observe reactions from user. If needed, return to the design process for refinement.

traits

An individual's creative potential can be mobilized by shedding the precept that there are creative and non-creative types. All possess intrinsic traits which can be cultivated to advance an individual's creative thinking capacity and aptitude for innovation. As educators and creative directors, we can raise awareness that cultivating creativity not only changes the way we learn, but also changes our outlook on the world.

Because of their courage, creative people are willing to make mistakes...they are not threatened by the unexpected.

—Frank Goble

traits

CURIOSITY

+ Playful yet disciplined
+ Open to outside stimuli
+ Pleasure in learning
+ Need to know how things work

FOCUS

+ Ability to organize
+ Ability to concentrate
+ Attention to detail
+ Perseverance

RISK-TAKING

+ Willing to push boundaries
+ Unorthodox methodologies
+ Divergent thinking

Common hurdles faced by creators

- Motivated by extrinsic rewards
- Belief that there is only one right answer
- Resistance to learning basic skills and technique
- Not allowing idle time for idea generation
- Giving in to easy solutions
- Too much common sense

FLEXIBILITY

+ Tolerance of ambiguity
+ Ability to disengage
+ Empathetic to other points of view

VISION

+ Ability to make connections and see relationships
+ Awareness of the big picture
+ Passion for creating

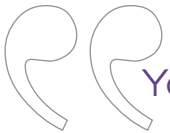
HONESTY

+ Awareness of own strengths and weaknesses
+ Strength of conviction
+ Self efficacy
+ Acknowledge what is truly original
+ Aware of which contributions are truly valuable

- Busy all the time
- Task Oriented
- Viewing error as a lack of ability
- Always need to be right
- Fear of failure

techniques

The approach taken to educating students and fostering creativity in professionals can undoubtedly leave lasting impressions. For this reason, the approach we take to building creative thinkers should carefully consider both the method of instruction and the spirit we bring to the experience of learning. The techniques presented here embody both of these, giving educators and creative directors the means to support the creative process and cultivate creative traits. Applying these techniques shows students and professionals a new way of learning and provides the skills needed to approach life with a creative behavior.



You can't use up creativity. The more you use, the more you have.

—Maya Angelou

techniques

PLAY, EXPERIMENT, & STIMULATE

ENCOURAGE FLEXIBILITY WITHIN CREATIVITY

MOTIVATION PERSEVERANCE & RISK-TAKING

FOSTER GROWTH & CURIOSITY

PROVIDE GUIDANCE & EMPATHY

CULTIVATE PASSION

Provide problems relevant to peoples lives before moving to broader problem solving. Provide open ended tasks to allow for discovery through tinkering.	Encourage constant revision. Play with information, materials and ideas; build, tear down, and rebuild. Allow for activities that require divergent thinking. Encourage novel approaches.
Prototype ideas early and often. Reduce problems into simple components.	Interact with people outside of your domain during idea generation phase. Know your domain well, but gain inspiration outside of your domain.
Projects that offer a challenge but allow for creative accomplishment. Balance challenges to skill level to keep the learning process fun.	Foster the experiential and experimental. Challenge the validity of assumptions and established theorems.
Reward new discoveries Recognize creative acts. Credit those who generated them in front of the group	Reward experimentation and novel approaches. Bring awareness that being wrong is a step toward originality.
Develop mentor relationships Provide guidance to facilitate learning instead rather than direct instruction	Believe in people's abilities. Respect unusual questions and crazy ideas.
Search for and identify the medium you love to work in. Search for and identify the domain that you deem relevant.	

conditions

Creativity can be unleashed through optimal learning environments, allowing students and professionals access to their creative thinking skills. As educators and creative directors we can produce the physical and social conditions that drive creativity and innovation. These thoughtfully constructed learning environments can breed imagination and set the stage for life-long discovery.

creative is the place where no one else has ever been. You have to leave the city of your comfort and go into the wilderness of your intuition. What you'll discover will be wonderful. What you'll discover is yourself.

—Alan Alda

conditions

SOCIAL

CULTURE OF OPTIMISM

+ Belief that great things can happen
+ Positive and safe
+ Failure is OK
+ Open-mindedness
+ Cross disciplinary activities and inspiration
+ Diverse in culture, race, and gender
+ Curb negative energy
+ Control any pressure to conform

CULTIVATE COMMUNITY

+ Encourage collaboration
+ Work with different people
+ Trust amongst peers enables risk taking
+ Group has sense of accountability
+ Promote personal and team honesty
+ Allow people to eat together
+ Promote humor and allow time for it

REWARD INNOVATION

+ Recognize creativity, not only successes
+ Notice all people
+ Non-hierarchical
+ Mentor guidance instead of direct instruction
+ Participatory vs. spectator environment

STIMULATING WORKSPACES

+ Change the lighting for different activities
+ Appropriate and sufficient work surfaces
+ Variety of seating options
+ Change seating periodically so students see the space in a new way
+ Ample space to save unfinished work
+ Quiet spaces for contemplation
+ Casual and formal work spaces
+ Large walkways and common areas to encourage interaction

FEED THE SENSES

+ Provide music, pictures, textures, color and pattern
+ Fill space with unique objects and images for inspiration
+ Have musical instruments to play
+ Let people personalize their space; display work

RESOURCE CENTER

+ Abundance of interesting and useful materials and resources
+ Both traditional and digital tools
+ Allow alternative art forms to work with
+ Provide cross-domain content in materials

references

The following books and articles were most influential in developing this guide. These works are highly recommended for further reading on teaching for creativity. We would also like to give special thanks to those who contributed their insights to us during the creation of the guide.

categories

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creative process

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acknowledgements

special thanks

Ralph Ball
Brandi Bishop
Shirl Buss
Nancy Bane Cresta
Cathleen Curran
Ramon Puig Cuyas
Liz Davis
Joseph Giacomin
Ce Ce Iandoli
Steve Jones
Daniel Cid Moraga
Robert Natata
Nicholas Rhodes
Joshua Singer
Mimi Sheiner
Pino Trogu
Paul Turnock

iDo research

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Industrial Design Outreach Institute

The Industrial Design Outreach (iDo) is a mentor-based outreach program in San Francisco that introduces public school students to the teaching of design methodologies. Since 2003, iDo has designed and delivered its curriculum according to the principle concepts discussed in this book. iDo is not only a firm believer, but acting proof that teaching for creativity has the power to transform education and increase students' engagement in all areas of academics.

Martin Linder

Professor Martin Linder is the founder and Executive Director of the Industrial Design Outreach Institute (iDo). He founded iDo to provide public school students with the experiential learning that promotes creativity. Martin, who graduated from the Cranbrook Academy of Art, has distinguished himself as a product design professional, educator, and community leader. He has received numerous awards, including the Industrial Design Excellence Award, the SF State Sarlo Excellence in Teaching Award, and the Institute of Civic and Community Engagement Faculty Award.

The Research Team

In the Spring of 2009 the iDo Research Team began investigating methods of teaching for creativity in both educational and business settings. In addition, the team has done extensive data collection on the effect that teaching design methodologies has on a student's ability to perform in academics.

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Donate

Contributions can be made online:
http://industrialdesignoutreach.org

$14.95
ISBN 978-0-615-36036-2
51495>
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