Allow events to change you. **Forget about good.** Process is more important than outcome. Don’t be cool Cool is conservative fear dressed in black. **Capture accidents. Drift.** Begin anywhere. Be careful to take risks. Work the metaphor. **Collaborate.** Ask stupid questions. Stand on someone’s shoulders. Think with your mind. **Forget technology** Creativity is not device-dependent. Take field trips. **Stay up late.** Make mistakes faster. **Break it, stretch it, bend it, crush it, crack it, fold it.** Explore the other edge. **Imitate. Laugh.**
Design

Communicates
(direct simple (?) messages)

Seduces

Facilitates use

.....
Design often considered a craft rather than an engineering discipline, as it is influenced by social as well as technical considerations, and has elements of fashion, acceptance, affect, playfulness (Blackwell & Green, 2003).

Techniques and methods are used in design for thinking about a problem (i.e. quick prototyping and sketching is characteristic in the design process).

Practicing such techniques facilitates divergent ‘design thinking’

In its broader context, design thinking is used as a framework for exploration.
Design is an applied art.

some immediate real utility

science, art and industrial production
projected onto everyday life
so that people's lives get enhance in an immediate tangible way.

Design can sometimes become art in itself, (cross over utilitarian nature) but the objects must first be applied, then art, not the other way around.

Design is linked with technology and production
<table>
<thead>
<tr>
<th>Positivism</th>
<th>vs</th>
<th>phenomenology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technical rationality</td>
<td></td>
<td>idealism</td>
</tr>
<tr>
<td>Rational problem solving</td>
<td></td>
<td>hermeneutic approach, reflective practice</td>
</tr>
</tbody>
</table>
Design:

SCIENCE

or

ART?

...this is the question
<table>
<thead>
<tr>
<th>SCIENCE</th>
<th>ART?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Convergent thinking</td>
<td>Divergent thinking</td>
</tr>
<tr>
<td><strong>positivism</strong> or <strong>phenomenology</strong></td>
<td><strong>descriptive vs perscriptive</strong></td>
</tr>
<tr>
<td>optimal / true / single best description</td>
<td>selected design path – many possible solutions</td>
</tr>
</tbody>
</table>
Design:

SCIENCE

or

ART?

...is this the question?
Design is at the core of human activity; it defines what humans are.

The effort to classify design activity as being (or not) a scientific activity is irrelevant, as that question is invalid (Gedenryd, 1998).
N. Cross

Design methods:
not binary choice between science or art

Science of Design: body of work aiming to improve our understanding of design activity and design methods
Alexander, JC Jones
1960’s efforts to systematize design methods (treating design activity as scientific activity)
later rejected effort towards systematic design methodology

Lawson (1980)
*Design is a prescriptive activity*
*Answering ‘what it could be’ or ‘what it could be?’*
*Designers try to define the future by forming an informed understanding of the present.*
*No optimal design solutions. No absolute method.*

Schon (1983)
*During the design process the designer iteratively reflects on the problem, provides elements of solutions, evaluated them, in iterative cycles of reconsideration and action based on the previous step.*
Design activity is a problem solving activity, investigating and identifying aspects of the problem space.

designers should not design with fixed goals [(Simon, 1969), because design activity is a means to identify further design goals – even goals that may be inconsistent with the original goals of the design activity.

Each situation that design generates is a starting point for a new design activity, and with this process one gradually identifies different aspects of the problem space. (iterative process)
Design is systematic in its process
Not in the way it applies its methods
techniques that are analytical, others intuitive
no overall methodology,
3 broad iterative interassociated process phases:
thinking, designing, realizing
Mode of thought

Design is a plan or framework of linking ideas together into a system of meaning. It can also be an end in itself, an abstraction which generates ideas and concepts.

Mode of expression

Design is also a way of taking thought systems and applying them to visual equivalents — usually defined by exploiting a medium's unique qualities to maximize meaning.

Mode of production

Design is finally a way of making artifacts — limited by the way media is structured and exploiting its inherent qualities — by what is expected, or by the unexpected.
Design process

- Analysis
- Design
- Finalisation

Evaluation + Communication
Design

divergence

convergence

articulation

iterative evaluation

analytic

synthetic

process management

exploration

collaboration

intuition
Design thinking is a process for practical, creative resolution of problems or issues looks for an improved future result. combines empathy, creativity and rationality to meet user needs and drive business success.

Unlike analytical thinking, design thinking is a creative process based around the "building up" of ideas. There are no judgments early on in design thinking. no fear of failure - maximum input and participation in the ideation and prototyping/sketching encouraged

<table>
<thead>
<tr>
<th></th>
<th><strong>Research method</strong></th>
<th><strong>Design process</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Preparation for research</strong></td>
<td>Literature review</td>
<td>Study historic+contemporary examples, media, secondary research brainstorming, mindmaps</td>
</tr>
<tr>
<td><strong>Information gathering.</strong></td>
<td>Collection of preliminary field data</td>
<td>Experimentation with materials and visual ideas, rapid prototypes, sketches</td>
</tr>
<tr>
<td><strong>Goal: to limit variables and identify problem</strong></td>
<td>Information correlated; problem defined; educated guesses made; hypotheses stated; research design prepared</td>
<td>Design problem identified through visual analysis and recognition</td>
</tr>
<tr>
<td><strong>Identification of problem and hypothesis</strong></td>
<td>Research plan is carried out; results are analyzed, plan is modified as necessary based on results; experiments are replicated</td>
<td>Work is created in a series, with each work suggesting problems to explore in subsequent work</td>
</tr>
<tr>
<td><strong>Exposition of facts + interpretation</strong></td>
<td>Publication of findings</td>
<td>Exhibition of work or production of design</td>
</tr>
<tr>
<td><strong>Presentation of results + findings</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
design methods are used
with the aim of generating concepts
Analysis  
understand issues of users, + context + problem space

Critical skills
management skills

Synthesis  
propose, sketch, detail solutions to those issues
by detailing understand better aspects of the problem space, redefine problem
Analysis

Ideas

design
detailed Design

Produced design

Design techniques (methods)
Analysis

Concept

Design

Development

Finalization

Realisation

Ideas

Broad, divergent thinking

Scenarios, Sketches, Drafts, gradually more concrete

Design techniques (methods)

Produced design

Design

detailed Design

Produced design
Analysis

- Critical skills
  - Info gathering, observation, secondary research
  - Brainstorming, snowballing, groupswork
  - Inspiration, visual mappings, moodboards
  - Role playing, semantic mappings
  - Exploration of situations – broad, no filter
  - Beyond correct and complete
  - Sketches, experimentation
  - Scenarios, storyboards
  - Focus groups
  - Video prototypes, role play
  - Rapid prototypes, enacting

Idea gathering

- Brainstorming, snowballing, groupswork
  - Inspiration, visual mappings, moodboards
  - Role playing, semantic mappings
  - Exploration of situations – broad, no filter
  - Beyond correct and complete
  - Sketches, experimentation
  - Scenarios, storyboards
  - Focus groups
  - Video prototypes, role play
  - Rapid prototypes, enacting

Synthesis

- Critical skills
  - Info gathering, observation, secondary research
  - Brainstorming, snowballing, groupswork
  - Inspiration, visual mappings, moodboards
  - Role playing, semantic mappings
  - Exploration of situations – broad, no filter
  - Beyond correct and complete
  - Sketches, experimentation
  - Scenarios, storyboards
  - Focus groups
  - Video prototypes, role play
  - Rapid prototypes, enacting

Designs

- Sketches, experimentation
  - Scenarios, storyboards
  - Focus groups
  - Video prototypes, role play
  - Rapid prototypes, enacting

- Design
  - Finalization
  - Specs
  - Documents

Produced design

Finalization

- Specs
  - Documents

Ideas

- Production design
  - Experiment and Select appropriate elements and detail

User & problem space

- Design
  - Experiment and Select appropriate elements and detail

Understand aspects of user & problem space

- Manage process
  - Create project space (cocoon)
  - Document ideas
  - Manage time (focus)
  - Assessment criteria
  - Communicate with client
  - Document decisions
Example: brainstorming (keywords, grouping)  
(dynamics of working in groups process)  
Winter
BRAINSTORMING is working together to help you generate ideas more quickly and effectively.

State the problem clearly and concisely.
Don't lose anything (record ideas)
set a target (#ideas)

Keep the ideas flowing, be responsive, try approach the problem from different viewpoints.

For more effectiveness:
Defer judgment - build on ideas to improve them.
no criticism
One conversation at a time
Go for quantity - the more ideas the better
Have wild ideas - every idea is valid
Stay focused on the problem in hand
Be visual - sketch out ideas.

Design Methods focus on:

Understanding the user and the context of use
Exploring possibilities and constraints by focusing critical thinking skills to research and define problem spaces for existing products or services—or the creation of new categories; (Brainstorming)

Redefining the specifications of solutions which can lead to better guidelines for traditional design activities

Managing the process of exploring, defining, creating artifacts continually over time

Prototyping possible solution scenarios that incrementally or significantly improve the inherited situation

Trendspotting; understanding the trend process.

http://www.designcouncil.org.uk/about-design/how-designers-work/design-methods/
INSPIRATION AND ORGANISATION

DEDICATED PROJECT ZONE

INSPIRATION BOARDS – MOOD BOARDS
Physical, higher impact - visual tool to quickly inform others of the overall 'feel' and get inspiration from

TREND BOARDS
COMPETITION / CHARACTERISTICS BOARDS

COLLECTION OF MATERIALS
IDEA BOOKS (PHYSICAL, draft and sketch and stick on)

...

ASSESSMENT CRITERIA
There is no blue without yellow and without orange.

- Vincent Van Gogh
Dutch painter, 1853-1890
BRAINSTORMING
SNOWBALLING

CLUSTERING AND GROUPING MAPS, SEMANTIC ASSOCIATIONS

SCETCHES

DESCRIPTIONS, SCENARIA

STORYBOARDS

QUICK PROTOTYPES
physical rapid prototypes
VIDEO PROTOTYPES

DRAFT LINE DRAWINGS
Outside the box thinking is encouraged in these earlier processes since this can often lead to creative solutions.

design thinking forms part of the A/D/A (Architecture/Design/Anthropology) paradigm, which characterizes innovative, human-centered enterprises.

This management paradigm focuses on a collaborative and iterative style of work and an abductive mode of thinking, compared to the more traditional practices associated with the traditional M/E/P (Mathematics/Economics/Psychology) management paradigm and deductive logic.
Design Analysis

Understand the big picture

Explicit issues
(design brief, clients needs, brand identity, target audience, style (personality), message, aim, benchmarking competition).

Implicit issues (style (personality), message, points of reference

Design Conceptualisation

Visual Mappings (competition, related, context, style, positioning)
Moodboards, charts, trends matrices, key features

Brainstorming freely and uninhibitedly expressing ideas, rich collection of daring concepts, cross fertilisation of ideas
Snowballing, discussion, role playing. Scenarios,

Many Scetches / scenarios
**Composition** is one of the most important features of design especially when using pre-existing materials or diverse elements.

**Designing** often requires a designer to consider the aesthetic, functional, social and other aspects of an object or a process considerable research, thought, modeling, interactive adjustment, and re-design.

**Example:** Graphic Design can refer to a number of artistic and professional disciplines which focus on visual communication and presentation.

Various methods are used to create and combine symbols, images and/or words to create a visual representation of ideas and messages.

A graphic designer may use typography, visual arts and page layout techniques to produce the final result.

http://en.wikipedia.org/wiki/Graphic_design
There is no single way to practice design methods. Inherent flexibility is in the design approach; it is a combined product of the right use of techniques and methods as much as of intuition and skill. (T. Winograd), (Cross, 2008).

"Methodology should not be a fixed track to a fixed destination, but a conversation about everything that could be made to happen. The language of the conversation must bridge the logical gap between past and future, but in doing so it should not limit the variety of possible futures that are discussed nor should it force the choice of a future that is unfree."(Jones 1991)
I rose up to open to my beloved; and my hands dropped with myrrh