NORTHWESTERN
UNIVERSITY

Master of Science
Learning & Organizational Change

MSLOC 452 Cognitive Design

Summer 2008

Instructor, Mark Clare

Room 303 (with exceptions), Annenberg Hall

Time: Full-Day Sessions, Saturdays, 9:00 am - 3:00 pm

Classes, Tuesdays, 6 pm - 9pm

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Required Materials

MSLOC 452 Course Pack

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Cognitive Design Course Description

This course will introduce students to the methods and tools needed to design organizational improvements and generate new product ideas that support and enhance the cognition of employees and customers. Cognitive design is devoted to understanding how people perceive, think, remember, feel, emote and relate in real world situations and using that understanding to drive innovations in products, processes, HR programs, change initiatives and other organizational improvements. Students will learn how to design organizational artifacts (e.g. new products, improved workflows, behavior change programs) that fit how the human mind works along both the intellectual and emotional dimensions. This is a project-based course where students work in teams to understand cognition, identify unmet needs and apply leading ideas of applied cognitive science to pressing challenges in business. In addition to a team project, students will learn by systematically exploring their personal world of artifacts and using the findings to complete an individual design project. Special attention will be paid to reverse engineering artifacts that have a "most favorite status" with students in the hopes of coming to understand the nature of deep cognitive bonds between people and artifacts and how that can be used to drive near-artistic levels of design in business.

Course Format

- The course is defined by three full-day sessions each devoted to a phase in cognitive design process: Defining the Design Challenge, Modeling Cognition at Work and Prototyping Solutions. Between each full-day session there are phone conferences to review work on projects and class meetings to share results and discuss case studies
- Collaboration is key - students will be expected to work not only independently but also in small temporary groups and on a larger, longer-term design team
- Course work is built around the process of doing cognitive design on a real-world problem – student will jump into the deep end and learn by doing
- Creativity will be prized – students will be challenged to think differently and behave like designers and applied scientists in the wild
- Course is supported by an extensive list of readings that come from diverse fields- some are optional and others required

The schedule for the course is given below:

Event	Date	DOW	Time	Comment
Full-day session	28-Jun	Sat	9am - 3pm	One hour lunch
Class	8-Jul	Tue	6 - 9pm	
Full-day session	12-Jul	Sat	9am - 3pm	One hour lunch
Class	22-Jul	Tue	6 - 9pm	
Class	29-Jul	Tue	6 - 9pm	
Full-day session	2-Aug	Sat	9am - 3pm	One hour lunch
Class	12-Aug	Tue	6 - 9pm	
Class	19-Aug	Tue	6 - 9pm	
Office Hours	1-Jul	Tues	6 - 9pm	Phone conf.
Office Hours	15-Jul	Tues	6 - 9pm	Phone conf.
Office Hours	5-Aug	Tues	6 - 9pm	Phone conf.

Course Format (cont'd.)

Office hours are by appointment and must be scheduled with the TA by Friday noon before the session. Project teams are strongly encouraged to schedule 30 minutes to review progress and discuss issues.

Expected Outcomes

- Learn to use cognitive design to create artifacts that:
    1. Satisfy previously unmet mental needs
    2. Require little to no mental work to use
    3. Induce specific mental states in users
    4. Overcome or positively harness particular mental biases or limitations
    5. Accelerate specific mental processes
    6. Offer experiences and personal transformations to users
- Understand how cognitive design relates to other design disciplines and trends
- Through case analysis understand why some cognitive designs work so well and learn how to apply that understanding to other design problems
- Appreciate the role of cognitive design in increasing the value of an organization's offering as it migrates up a continuum from a commodity to a product, service, experience and ultimately a consumer transformation
- See how cognitive design for organizational effectiveness potentially reframes the role of management and support areas (e.g. HR) as designers of offerings for employees much as product development and marketing are designers of offerings for customers
- Develop a basic understanding of individual and group cognitive processes and limitations (e.g. self-regulation, metaphor, cognitive bias) and use it to inform the design process
- Learn how to assess the level of fit between the functionality of an artifact and the cognition of the user and use the assessment to improve the effectiveness of the design
- Learn how to model human-artifact interactions as a conversion of mental energy and use the resulting insights to drive innovations across the value-chain
- Work as a team member to solve real-world design problems that are relevant to the student's business or career
- Develop a good understanding of when to use cognitive design to help solve a problem or seize an opportunity
- Explore introspectively the nature of deep personal relationships between people and artifactsand learn to use that as a wellspring of inspiration for design

Course Requirements and Assignments

Attendance and Participation. Attendance and participation are required but are not graded. Students can miss a maximum of two classes (note this does not include a full-day session). All work must be made up including a review of the class recording (if available).

There are five major components of participation that are essential for success in this course:

1. Make sure you understand what is going on – actively listen, ask constructive questions, clarify (play-back) key points
2. Contribute to the content of the course – share your ideas and experiences, extrapolate or extend key points, constructively challenge a point of view (this include posting material electronically on the course blackboard)
3. Support everyone's learning – Answer other student's questions, make sure others have an opportunity to participate, raise questions you think others may have
4. Collaborate – volunteer for roles, take initiative in team activities, refine ideas offered by others
5. Be creative – take a risk and try something new (e.g. use appropriate humor or try a mind-mapping note taking technique)

Class participation also includes posting materials electronically on the course blackboard.

Team Design Project. Working in small teams, students will forward-engineer a solution to a real world cognitive design application using the following methodology:

1. Defining the design challenge – selecting, scoping, analyzing and documenting an application including a preliminary assessment of the level of cognitive fit
2. Understanding the cognition at work – modeling the artifacts, operations, cognitive processes and cognitive structures that are driving value creation within the scope of the application to understand unmet cognitive needs and define a psychographic profile for the target user group
3. Prototyping solutions – modeling for idea generation, prioritizing needs, developing and evaluating solutions (as bundles of features) and conducting rapid market tests.

Students are encouraged to select applications that they are passionate about, include unmet cognitive needs, have a clear value proposition and offer the opportunity for sponsorship or implementation.

Successful applications of cognitive design include projects that:

- Change employee behavior to improve organizational effectiveness
- Sell more products and services based on designing a specific think-and-feel
- Attract, develop and retain profitable customers and talented employees based on understanding and meeting cognitive needs
- Address major social challenges in public health, safety, financial security and sustainability by designing policies, programs and interventions that reflect the ways minds work.

Team Design Project (cont'd.)

Through the team design project students will take on a behavior change challenge (organizational or social), a cognitive makeover challenge (product service innovation) or a human capital challenge (retention, recruitment, development of employees or customers). At the heart of each of the design challenges is the need to change thinking (e.g. decision making, problem solving), behavior (e.g. health, safety, workplace, savings) or a specific frame of mind (e.g. trust, pleasure, emotion). These are among the very hardest and most critical business challenges today.

Examples of successful applications from previous classes include:

- Learning new work practices to support large-scale IT implementations (behavior change)
- Improve compliance with new safety, customer service or team practices (behavior change)
- Adapting new evidence-based practices to guide decision-making (behavior change)
- Retaining high lifetime value customers (human capital – customer)
- Developing women executives (human capital - employees)
- Attracting new technical employees to do mainframe work (human capital – employees)
- Developing a viral video to support branding efforts (makeover)
- Developing new flossing devices or condom packages to increase use (product service innovation)
- Redesigning an existing product to include retro, national pride and adventurer models (innovation)
- Creating services for a concierge approach to primary care medicine (service innovation)
- Increasing participation in wellness and preventative medicine programs (behavior change)
- Developing more effective methods of teaching and learning math (thinking change – social)
- Developing programs to increase physical activity in youth (behavior change – social)

Team Design Project (cont'd.)

One challenge students will face is organizing themselves into an effective team and managing a complex design project under a tight time table. Students are free to organize as they see fit to create required deliverables. The work plan below is offered as an example of what to expect.

TEAM DESIGN PROJECT SUGGESTED WORK PLAN

Activity	Start	End	Deliverable
Defining the Design Challenge			
Select application	23-Jun	8-Jul	Scope Statement
Form team	28-Jun	8-Jul	Team Roster
Scope the cognition at work	8-Jul	12-Jul	CAW and ABC Diagrams
Set the design goal	8-Jul	12-Jul	Cognition-Value Map
Finalize documentation	8-Jul	12-Jul	Design Intent Document
Modeling Cognition at Work			
Refine definition of target group	12-Jul	22-Jul	User Cognitive Profile
Develop plan for doing modeling	12-Jul	22-Jul	Modeling Plan
Literature search	12-Jul	22-Aug	Cognitive Models
Reverse engineer artifact(s)	12-Jul	22-Jul	FFF and Six Factors Documents
Understand need and cognition	22-Jul	2-Aug	Psychographic Profiles, Models
Additional cognitive model	22-Jul	2-Aug	Cognitive Models
Finalize documentation	29-Jul	2-Aug	Needs and Insights Document
Prototyping Solutions			
Model for design ideas	22-Jul	2-Aug	Needs and Insights Document
Define prioritized needs and features	2-Aug	12-Aug	QFD Matrix
Generate & evaluate design scenarios	5-Aug	17-Aug	Design Scenarios
Prototype and test	Optional	Optional	Prototype, Test Instrument
Finalize documentation	16-Aug	18-Aug	Design Scenario Document

Individual Design Project

In addition to working on a design team, each student will experience the full life cycle of the cognitive design as an individual producer. The goal of this series of exercises is to build skill in:

- Seeing (perceiving) artifacts (tangible, intangible) and systems of artifacts (spaces, places)
- Focusing on think-and-feel versus usability and functionality
- Deconstructing artifacts into form, features/properties and functions/behaviors
- Decoding frame of mind in terms of interactions modeled as a conversion of mental energy
- Applying resulting insights to the design or redesign of artifacts

This will sharpen the student's ability to perceive the world like a cognitive designer, do reverse engineering and gain personal insights into the relationships they have with artifacts. Most importantly, students will learn to use their own instincts, personal feelings and passions as energy for great design while systematically overcoming any biases that this might create.

Specific individual assignments include:

1. Your Universe of Artifacts: Students will observe, reflect on and categorize the everyday and special artifacts they interact with. An artifact database will be developed and artifacts that agitate, tolerate, resonate, accelerate and integrate will be identified. Both tangible and intangible artifacts will be observed and a favorite (that has a unique impact on cognition) will be selected for further analysis.

2. Reverse Engineering of Your Favorite Artifact: Students will deconstruct their favorite artifact to determine what makes it tick from the standpoint of cognition. This includes breaking it down into core features and functions as well as those features that create a specific frame of mind (perceptions, memories, thoughts, emotions and other visceral responses) in the student.

3. Remaking other Artifacts as Your Favorite: Students will use the insights gained from reverse engineering to redesign other artifacts so that they have the think-and-feel (to the degree appropriate) of their favorite artifact.

Students can earn extra credit by prototyping any artifacts they redesign as their favorite. Examples of favorite artifacts that have been successfully in these exercises include: Jackson Pollock painting, lottery ticket, Zuma (a videogame), glucometer, an old Polaroid camera, iPod, Ironman (superhero not the new movie) and a rose garden to name just a few.

Great design flows from deep insight into our relationships with objects, events and intangibles. These insights are not typically found in market studies but more from deep introspection or artist insights. The individual assignments are designed for students to take a personal introspective journey and experience a deep insight into the relationship between mind and artifact. Although highly subjective, their experience will no doubt deeply affect others with a similar psychographic profile. In this way, cognitive designers can act as artists, expressing their inner most thoughts, feelings and other cognitions within the instrumentality of an artifact.

Individual Design Project (cont'd.)

Students are free to approach this more creative design process in any way they see fit as long as they produce the required deliverables. A suggested work plan follows.

INDIVIDUAL DESIGN PROJECT SUGGESTED WORK PLAN

Activity	Start	End	Deliverable
Defining Design Challenge			
Inventory your artifacts	23-Jun	12-Jul	Artifact Database
Analyze your artifacts	12-Jul	22-Jul	Key Findings Document
Select favorite artifact	12-Jul	22-Jul	CAW and ABC Diagrams
Finalize documentation	12-Jul	22-Jul	Design Intent Document
Modeling Cognition at Work			
Model your favorite artifact	12-Jul	22-Jul	FFF Document
Reverse engineer favorite artifact	22-Jul	2-Aug	Six Factors Documents
Understand needs and cognition	22-Jul	2-Aug	Psychographic Profile
Select artifact(s) to remake	22-Jul	2-Aug	ABC and FFF Diagrams
Finalize documentation	22-Jul	2-Aug	Needs and Insights Document
Prototyping Solutions			
Define prioritized needs and features	2-Aug	15-Aug	QFD Matrix
Generate & evaluate scenarios	2-Aug	15-Aug	Scenarios
Prototype and test	Optional	Optional	Prototype, Test Instrument
Finalize documentation	15-Aug	19-Aug	Design Scenario Document

Grading

Points towards a letter grade will be earned as follows:

	Total Possible Points
Class Participation (Required but Not Graded)	
Participation in discussion threads	0
In-class discussion and contributions	0
Possible points:	0
Individual Written Assignments	
Your Universe of Artifacts	100
Your Favorite Artifact Deconstructed	100
Remaking an Artifact as Your Favorite	100
Possible points:	300
Team Design Project	
Defining the Design Challenge	100
Cognitive Models	200
Proposed Designs	200
Individual Performance – Peer Reviewed	200
Possible points:	700
Total Possible points:	1000
Class participation:	0%
Individual Written Assignments	30%
Team Design Project – Individual Grade	20%
Team Design Project – Group Grade	50%

Extra credit (up to 200 points) is possible for prototyping a design and/or securing sponsorship (corporate or venture funding) for moving the design forward.

Letter grades are based on the percentage of points earned (100% = 1000 points) and will be assigned as follows:

- 94 -100 = A (940 or more points to get an A)
- 92-93 = A-
- 90- 91 = B+
- 87-89 = B
- 85-86 = B-
- 83-84 = C+
- 80-82 = C
- 78-79 = C-
- 77 and below = F

Other Course Information

Late Assignments. Late assignments must be excused (approved by the instructor) or will lose 25% of the maximum assignment grade. Unexcused assignments more than 3 days late will not be graded.

Communications. The student is responsible for any announcements, assignment changes, lecture notes, verbal information, and handouts furnished during the class. Recognizing that many students with different schedules, we will not have formal office hours. Instead, should you have questions, please e-mail the instructor and the teaching assistant. Meetings will be scheduled as necessary.

Academic Integrity. As an MS LOC student, you have entered a community of scholarship in which academic integrity is of the highest value. All students enrolled in the MS LOC program are expected to adhere to the standards for academic integrity. Students who violate these standards will be sanctioned as is deemed appropriate by the Director, Dean, and the faculty of the School. More information regarding academic integrity guidelines and policies can be found at http://www.northwestern.edu/uacc/.

Accommodations for Students with Disabilities. In compliance with Section 504 of the 1973 Rehabilitation Act and the Americans with Disabilities Act, Northwestern University is committed to providing equal access to all programming. Students with disabilities seeking accommodations are encouraged to contact the office of Services for Students with Disabilities (SSD) at 467-5530 or mailto:ssd@northwestern.edu. SSD is located in the basement of Scott Hall. The SSD weblink is: http://www.stuaff.northwestern.edu/ssd/.

Course Pre-Work

Week of June 22

Before the first session students are asked to complete readings, start their individual design project and begin to search for an application for the team design project.

Assignments:

- Complete all required readings for the first full-day session on June 28th with special emphasis on the course syllabus and the readings (Clare, M. 2008).
- Using the information in the course syllabus on past student applications quickly identify an application you would like to do in each of the main areas of behavior change, cognitive makeover or product service innovation, and human capital.
- Go to the course blackboard (discussion thread) and read the briefing paper on the individual design project. Begin the first assignments and be ready to share insights and ask questions on the 28th.

Defining the Cognitive Design Challenge

June 28 Full-Day Session One (of Three)

In this first full-day session we define cognitive design, understand why it is important, introduce basic tools and take a detailed look at "defining a design challenge", the first step in doing a project.

Assignments:

- See the pre-work for the Week of June 23.

Topics:

- Background and Motivation
- Brief Introduction to Cognition For Designers
- Three Basic Principle of Cognitive Design
- A Toolkit for The Cognitive Designer
- How to Pick a Good Application
- The ABC and CAW Models of Cognition
- Documenting Your Design Challenge and Forming Initial Project Teams

Reading (prior to class):

1. Clare, M. (2008). Cognitive design: A textbook. Unpublished Manuscript. Selected readings TBD.
2. Clare, M. (2008). Cognitive design blog. http://newvaluestreams.com/wordpress/. See general intro pages and the following entries:

   http://newvaluestreams.com/wordpress/?p=66

   http://newvaluestreams.com/wordpress/?p=84

   http://newvaluestreams.com/wordpress/?p=65

   http://newvaluestreams.com/wordpress/?p=36
3. Blythe, M. (2004). Funology: From usability to enjoyment. Springer. Introduction, pp xii – xix.
4. Desmet, P.M.A. and Hekkert, P. (2007). Framework of product experience. International journal of design, 1(1), 13-23.
5. Gilmore, J. (2003, Fall). Frontiers of the experience economy, Batten Briefings.
6. Jordan, W. (2000). Designing pleasurable products. CRC Press. Chpt.1: Pleasure with products, pp. 1-10.
7. McMullin, R. (2000). The new handbook of cognitive therapy. Norton. Chapter 1: Teaching the ABCs, pp. 7-36; Chapter 2: Finding the beliefs, pp. 37-75.

Defining the Cognitive Design Challenge (cont'd.)

June 28th Full-Day Session One (of Three)

8. Moggridge, B. (2007). Designing interactions. MIT Press. Forward: What is interaction design? pp ix-xix and Chpt. 10: People and prototypes, pp 643-664.

9. Norman, D. A. (2008). The design of future things. Basic Books. Chpt 1: Cautious cars and cantankerous kitchens, pp 1-34.

10. Postrel, V. (2003). The substance of style: how the realm of aesthetic value is remaking commerce, culture & consciousness. Harper Collins, Chpt. 1: The aesthetic imperative pp. 1-33

11. Szegedy-Maszak, M. (2005, Feb). Mysteries of the mind. U.S. News & World Report.

12. Zaltman, G. (2003). How customers think: Essential insights into the mind of the market. Harvard Business School Press, Chpt. 2, A Voyage to New Frontiers", pp. 27-43.

Required: 1, 2, 4, 5, 7 and 12; Optional: 3, 6, 8, 9, 10 and 11

Questions:

- What is cognitive design and why is it important now?
- How can we understand cognition from a design point of view?
- How is cognitive design different from other approaches to design and innovation?
- What tools can we use to take a systematic approach to cognitive design?
- What makes for a good application?

Case Study: Lottery Tickets

July 8 Class One (of Five)

In class one we examine a case study (lottery tickets), finalize project selection and form design teams.

Assignments:

- Proposals for Team Design Projects
- Progress Report on Individual Design Projects

Topics:

- Lottery Tickets: Background, Impact and Features
- The Amazing Cognitive Ergonomics of Lottery Tickets
- Applying Insights from Lottery Tickets to Other Design Problems
- Pitches for Team Design Projects
- Forming Design Teams
- First Team Deliverable: Design Intent Documents
- Around-The-Room on Individual Design Projects

Reading (prior to class):

1. Clare, M. (2008). Cognitive design: A textbook. Unpublished Manuscript. Selected readings TBD.
2. Clare, M. (2008), Cognitive design blog. http://newvaluestreams.com/wordpress/?s=lottery.
3. Mainelli, M. (2006, Sept. 25). Why do people play the lottery? Make up your mind! Lecture presented at Gresham College, London.
4. Read personal accounts of why people play lotteries on Amazon Answers and Google Groups:

   http://answers.yahoo.com/question/index?qid=20070508044623AAQlnPz

   http://groups.google.com/groups?q=why+do+people+buy+lottery+tickets&hl=en&um=1&sa=X&oi=groups&ct=title

Required: All

Questions:

- Why do people buy lottery tickets?
- How can we paternalistically adapt the high-impact features of lottery tickets to other designs?
- What team design projects do we want to complete this summer?

Modeling Cognition at Work

July 12 Full-Day Session Two (of Three)

In our second full-day session we will focus on how to do the cognitive, operational and value modeling for the team design project.

Assignments:

- Design Intent Document for Team Projects
- Artifact Database for Individual Projects

Topics:

- Purpose and Scope of Modeling
- Brief Introduction to Cognitive Science for Designers
- Modeling to Understand Need
- Modeling Mental Workload (effort, memory, vigilance)
- Modeling Mental Energy Production (meaning, visceral, incidental)
- Modeling to Generate Ideas
- Doing Cognitive Modeling on Your Projects

Reading (prior to class):

1. Camerer, C. et al. (Eds.), Advances in behavioral economics. Russell Sage Foundation, 2004, Chapter 26: Out of control: visceral influences on behavior.
2. Clare, M. (2008). Cognitive design: A textbook. Unpublished Manuscript. Selected readings TBD.
3. Clare, M. (2008), Cognitive design blog. Review the following entries:
   http://newvaluestreams.com/wordpress/?cat=4
   http://newvaluestreams.com/wordpress/?cat=6
4. Frijda, N.H. (2004) Laws of emotion. Lawrence Erlbaum. Chapter One: Laws, pp 1-22.
5. Gladwell, M. (2005). blink: the power of thinking without thinking. Little, Brown and Company. Chapter 1: The theory of thin slices: how a little bit of knowledge goes a long way, pp. 19-47.
6. Krippendorff, K. (2006). The semantic turn: A new foundation for design. Taylor and Francis, pp 47 - 63.
7. McDaniel, M. (2007). Prospective memory. Sage. Chapter 9: Prospective memory as it applies to work and naturalistic settings
8. Moggridge, B. (2007). Designing interactions. MIT Press. Chapter 10: People and prototypes, pp. 665-682.
9. Zaltman, G. (2003). How customers think: Essential insights into the mind of the market. Harvard Business School Press. Chapter 4: Interviewing the mind/brain, pp. 73 – 99.

Required: 1, 2, 3, 5, 7, 8 and 9; Optional: 4 and 6

Questions:

- What cognitive science background do we need to do design?
- How can we make the idea of mental energy more precise and designable?
- What are the major types of cognitive modeling and when should we use them?
- Is there a rapid, low-impact but effective way to do cognitive modeling?
- What type of cognitive, operational and financial modeling is required to support your team design project?

Case Study: Effective Change Programs

July 22 Class Two (of Five)

In class two we look at case studies on changing health behaviors and learn how the cognitive process of self-regulation plays the key role in making change programs effective.

Assignments:

- Psychographic Profile and Cognitive Models for Team Design Projects
- Design Intent Document for Individual Projects

Topics:

- The Importance of Change Programs (and why they fail)
- Health Behaviors and Risks
- CASE STUDY: The Asheville project
- Models of Self-Regulation
- Next Steps on Team Design Projects
- Around-The-Room on Individual Design Projects

Reading (prior to class):

1. Clare, M. (2008). Cognitive design: A textbook. Unpublished Manuscript. Selected readings TBD.
2. Clare, M. (2008), Cognitive design blog. Review the following entries:

   http://newvaluestreams.com/wordpress/?cat=16
3. Deutschman, A. (2005, May). Change or die. Fast Company.
4. Young, D. (2003, May). Asheville project improves patient outcomes, cuts medical costs. American Society of Health-System Pharmacists.
5. In R. Baumeister & K. Vohs (Eds.) Handbook of self regulation: Research, theory and applications. The Guildford Press, 2004. Chapter 2: Self-regulation of action and affect, pp. 13-33; Chapter 5: Self-regulatory strength, pp. 84-96; Chapter 7: Self-regulation and behavior change, pp. 135-139.

Required: 1, 2 and 4 Optional: 3 and 5

Questions:

- Given the importance of planned change, why does it fail so often?
- What can we learn from success in changing health behaviors?
- What is self-regulation and how can we design programs to support it?

Case Study: Financial Products

July 29 Class Three (of Five)

In class three we continue to look at case studies and focus on financial products and learn about the key role biases (systematic errors) play in cognition.

Assignments:

- Status Report on Cognitive Models for Team Projects
- Status Report on Reverse Engineering Your Favorite Artifact

Topics:

- Saving and Investing Behaviors
- CASE STUDY: Save More Tomorrow (and other brain-smart pension products)
- The One Card from American Express (and other save while you spend products)
- Behavioral Economics and Prospect Theory
- Role of bias in Cognitive Design
- Next Steps in the Team Design Project
- Around-The-Room on Individual Design Projects

Reading (prior to class):

1. Cameron, C. et al. (Eds.) (2004). Advances in behavioral economics. Russell Sage Foundation. Chpt. 5: Prospect theory in the wild: Evidence from the field, pp. 148-161.
2. Clare, M. (2008). Cognitive design: A textbook. Unpublished Manuscript. Selected readings TBD.
3. Clare, M. (2008), Cognitive design blog. Review the following entries:

   http://newvaluestreams.com/wordpress/?s=%22financial+products%22
4. Fox, J. (2005, Mar 21). Why Johnny can't save for retirement. Fortune.
5. Mitchell, O. and Utkus, S. (2004). Pension design and structure: New lessons from behavioral finance. Chapter one: Lessons from behavioral finance for pension plan design, pp 3-43.
6. Thaler, R. and Benartzi, S. (2003, July). Save more tomorrow: Using behavioral economics to increase employee savings.
7. Trout, J. D. (2005). Paternalism and cognitive bias. Law and Philosophy, 24 (skip sections III and IV)
8. Briefly review the excellent catalog of cognitive biases on Wikipedia: http://en.wikipedia.org/wiki/List_of_cognitive_biases

Required: 2, 3, 5 and 8; Optional: 1, 4, 6 and 7

Questions:

- Why don't we save more than we do?
- What can behavioral finance/economics teach us about cognitive design?
- What is a cognitive bias and how do we deal with them as designers?

Prototyping Solutions

Aug 2 Full-Day Session Three (of Three)

In our third (and last) full-day session we will focus on how to generate, evaluate and rapidly testing design ideas.

Assignments:

- Needs and Insight Document for Team Projects
- Needs and Insight Document for Individual Projects

Topics:

- Generating Design Ideas
- The QFD Matrix
- Develop and Evaluate Scenarios
- Rapid Market Testing

Reading (prior to class):

1. Clare, M. (2008). Cognitive design: A textbook. Unpublished Manuscript. Selected readings TBD.
2. Clare, M. (2008), Cognitive design blog. Review the following entries:
   http://newvaluestreams.com/wordpress/?p=48
   http://newvaluestreams.com/wordpress/?p=67
   http://newvaluestreams.com/wordpress/?p=80
   http://newvaluestreams.com/wordpress/?p=94
   http://newvaluestreams.com/wordpress/?p=49
3. Boswijk, A., et al. (2006, Jan). A new perspective on the experience economy. Working paper, European Centre for the Experience Economy.
4. Heath, C. & Heath, D. (2007). Made to stick: why some ideas survive and others die. Random House. Introduction: What sticks?, pp. 3-24; Idea clinic: Simple, pp. 37 – 41; Idea clinic: Unexpected, pp. 77-79; Idea clinic: Concrete, pp. 86-87; Idea clinic: Credible, pp. 123 – 126; Idea clinic: Emotional, pp. 192–195; Idea clinic: Story, pp. 215–217.
5. Lidwell, W., et al., (2003). Universal principles of design. Rockport Publishers. Cognitive dissonance, pp. 36-37; Expectation effect, pp. 68 -69; Framing, pp. 92-93; Mental models, pp. 130- 131.
6. Moggridge, B. (2007). Designing Interactions. MIT Press. Chapter 10: People and Prototypes, pp 683 -723.
7. Norman, D. (2003). Emotional design, why we love (or hate) everyday things. Basic Books. Chapter 1: Attractive things work better, pp. 18 – 33.

Required: All

Questions:

- How can we use cognitive modeling to uncover design ideas?
- How do we specify features and functions to satisfy cognitive needs?
- How can we prioritize needs and make design tradeoffs?
- How do we formulate a design for an artifact?
- How can we quickly test design ideas?

Case Study: Viral Content

Aug 12 Class Four (of Five)

In class four we continue to look at case studies and focus on high-impacts designs that spread quickly and easily (like a virus) through a community

Assignments:

- Status Report on QFD Matrix and Scenarios for Team Projects
- Status Report on QFD Matrix and Scenarios for Individual Projects

Topics:

- Classic Forms of Viral Content – Good jokes, Old Sayings and Jingles
- The Viral Video Explosion
- Engineering Your Own Idea Virus
- Sticky Content (e.g. Mind Worms) Versus Viral Content
- Next steps in the Team Design Project
- Around-The-Room on Individual Design Projects

Reading (prior to class):

1. Clare, M. (2008). Cognitive design: A textbook. Unpublished Manuscript. Selected readings TBD.
2. Clare, M. (2008), Cognitive design blog. Review the following entries:

   http://newvaluestreams.com/wordpress/?p=81

   http://newvaluestreams.com/wordpress/?p=52
3. Godin, S. (2001). Unleashing the idea virus, Hyperion. Section 2: How to unleash an idea virus, pp. 39 – 78; Section 3: The idea virus formula, pp. 78 – 104.
4. Holahan, C. (2006, July 23). Raising the bar of viral web ads. BusinessWeek. Go to the website to read article and watch videos: http://www.businessweek.com/bwdaily/dnflash/content/jul2006/db20060724_535865.htm
5. Kirby, Justing & Marsden, P. (2005). Eds. Connected marketing: The viral, buzz and word of mouth revolution. Butterworth-Heinemann. Introduction and summary, pp. Xvi – xxxv; Seed to speed: how seeding trials ignite epidemics of demand, pp. 4 –22.
6. Usborne, N. et al. (2006, Nov 14). Can viral video clips drive targeted traffic? Journal of Marketing Experiments.

Required: 1, 2 3 and 4; Optional: 5 and 6

Questions:

- What can viral videos teach us about cognitive design?
- Why do some ideas spread like a virus (rapidly and by contact) and others don't?
- How can we engineer content to spread like a virus?
- Can anyone really make money from an idea virus?

Cognitive Design Projects

Aug 19 Class Five (of Five)

In the last class we will present projects, share insights and decide how to continue to learn together.

Assignments:

- Design Scenario Document for Team Projects
- Design Scenario Document for Individual Projects

Topics:

- The Venture Capital Game
- Team Presentations
- Around-The-Room on Individual Design Projects
- Your Next Steps in Cognitive Design
- Adjourn

Reading (prior to class): None

Questions:

- Which cognitive design project do we want to fund?
- What are the key lessons from our individual design projects?
- How can cognitive design be put to use in other MSLOC courses?
- What are your next steps as a cognitive designer?

COURSE OVERVIEW

WEEK	Week 1 Jun 28 Saturday	Week 2 Jul 8 Tues	Week 3 Jul 12 Saturday	Week 4 Jul 22 Tues	Week 5 Jul 29 Tues	Week 6 Aug 2 Saturday	Week 7 Aug 12 Tues	Week 8 Aug 19 Tues
CLASS AGENDA	Defining the Cog Design Challenge	Lottery Tickets	Modeling Cog at Work	Effective Change Programs	Financial Products	Prototyping Solutions	Viral Content	Cognitive Design Projects
REQUIRED READING FOR WEEK, DUE BEFORE CLASS	Clare; Cognitive Design: A Textbook. Unpublished Manuscript. Selected readings TBD. Clare; Cognitive Design Blog. http://newvaluestreams.com/wordpress/. See general intro pages and the following entries: http://newvaluestreams.com/wordpress/?p=66 http://newvaluestreams.com/wordpress/?p=84 http://newvaluestreams.com/wordpress/?p=65 http://newvaluestreams.com/wordpress/?p=36 Blythe; Funology: From Usability to Enjoyment. Springer. Introduction, pp xii – xix. Desmet; Framework of product experience.	Clare; Cognitive Design: A Textbook. Unpublished Manuscript. Selected readings TBD. Clare, M. (2008), Cognitive Design Blog. http://newvaluestreams.com/wordpress/?s=lottery. Mainelli, M. (2006, Sept. 25). Why do people play the lottery? Make up your mind! Lecture presented at Gresham College, London. Read personal accounts of why people play lotteries on Amazon Answers and Google Groups: http://answers.yahoo.com/question/index?qid=20070508044623AAQlnPz http://groups.google.com/groups?q=why+do+pe	Camerer; Advances in Behavioral Economics. Russell Sage Foundation, 2004, Chapter 26: Out of control: visceral influences on behavior. Clare; Cognitive Design: A Textbook. Unpublished Manuscript. Selected readings TBD. Clare; Cognitive Design Blog. Review the following entries: http://newvaluestreams.com/wordpress/?cat=4 http://newvaluestreams.com/wordpress/?cat=6 Gladwell; blink: the power of thinking without thinking. Little, Brown and Company. Chapter 1: The theory of thin slices: how a little bit of knowledge goes	Clare; Cognitive Design: A Textbook. Unpublished Manuscript. Selected readings TBD. Clare; Cognitive Design Blog. Review the following entries: http://newvaluestreams.com/wordpress/?cat=16 Young; Asheville project improves patient outcomes, cuts medical costs. American Society of Health-System Pharmacists.	Clare; Cognitive Design: A Textbook. Unpublished Manuscript. Selected readings TBD. Clare; Cognitive Design Blog. Review the following entries: http://newvaluestreams.com/wordpress/?s=%22financial+products%22 Mitchell; Pension Design and Structure: New Lessons from Behavioral Finance. Chapter One: Lessons from Behavioral Finance for Pension Plan Design, pp 3 - 43.	Clare; Cognitive Design: A Textbook. Unpublished Manuscript. Selected readings TBD. Clare; Cognitive Design Blog. Review the following entries: http://newvaluestreams.com/wordpress/?p=48 http://newvaluestreams.com/wordpress/?p=67 http://newvaluestreams.com/wordpress/?p=80 http://newvaluestreams.com/wordpress/?p=94 http://newvaluestreams.com/wordpress/?p=49 Boswijk; A new perspective on the experience economy. working paper, European Centre for the Experience Economy. Heath; Made to	Clare; Cognitive Design: A Textbook. Unpublished Manuscript. Selected readings TBD. Clare; Cognitive Design Blog. Review the following entries: http://newvaluestreams.com/wordpress/?p=81 http://newvaluestreams.com/wordpress/?p=52 Godin; Unleashing the ideavirus, Hyperion. Section 2: How to Unleash an Ideavirus, pp. 39 – 78; Section 3: The Ideavirus Formula, pp. 78 – 104. Holahan; Raising the bar of viral web ads. BusinessWeek. Go to the website to read article and watch videos: http://www.businessweek.com/b	None

	International Journal of Design, 1(1), 13-23. Gilmore; Frontiers of the experience economy, Batten Briefings. McMullin; The new handbook of cognitive therapy. Norton. Chapter 1: Teaching the ABCs, pp. 7-36; Chapter 2: Finding the Beliefs, pp. 37 -75. Zaltman; How customers think: Essential insights into the mind of the market. Harvard Business School Press, Chpt. 2, A Voyage to New Frontiers," pp. 27-43.	ople+buy+lottery+tickets&hl=en&um=1&sa=X&oi=groups&ct=title	a long way, pp. 19-47. McDaniel; Prospective Memory. Sage. Chapter 9: Prospective Memory as it Applies to Work and Naturalistic Settings Moggridge; Designing Interactions. MIT Press. Chapter 10: People and Prototypes, pp 665-682. Zaltman; How Customers Think: Essential Insights into the Mind of the Market. Harvard Business School Press. Chapter 4: Interviewing the mind/brain, pp. 73 – 99.			stick. Random House. Introduction: pp. 3-24; pp. 37 – 41; pp. 77-79; pp. 86-87; pp. 123 – 126; pp. 192 – 195; pp. 215 – 217. Lidwell; Universal principles of design. Rockport. pp. 36-37; pp. 68 - 69; pp. 92-93; pp. 130- 131. Moggridge; Designing Interactions. MIT Press. Chapter 10: People and Prototypes, pp 683 -723. Norman; Emotional design. Basic Books. Chapter 1.	wdaily/dnflash/content/jul2006/db20060724_535865.htm.	
INDIVIDUAL WRITTEN OR BB ASSIGNMNT	Application ideas for team design project Start your personal artifact database	Proposals for Team Design Projects Report on Individual Design Projects	Design Intent Document for Team Projects Artifact Database for Individual Projects	Psychographic Profile and Models for Team Design Projects Design Intent Document for Individual Projects	Status Report on Cognitive Models for Team Projects Status Report on Reverse Engineering Your Favorite Artifact	Needs and Insight Document for Team Projects Needs and Insight Document for Individual Projects	Status Report on QFD Matrix and Scenarios for Team Projects Status Report on QFD Matrix and Scenarios for Individual Projects	Design Scenario Document for Team Projects Design Scenario Document for Individual Projects

Course Pack Reading List

Optional Books

1. Clare, M. (forthcoming), Cognitive design: A textbook on designing for how minds work.
2. Gladwell, M. (2005). Blink: The power of thinking without thinking. Little, Brown and Company.
3. Lidwell, W., et. al. (2003). Universal principles of design. Rockwell.
4. Zaltman, G. (2003). How customers think: Essential insights into the mind of the market. Harvard Business School Press. Chapter 4: Interviewing the mind/brain, pp. 73-99.

Reading for Full-Day Session One:

1. Clare, M. (2008). Cognitive design: A textbook. Unpublished Manuscript. Selected readings TBD.
2. Clare, M. (2008). Cognitive design blog. http://newvaluestreams.com/wordpress/. See general intro pages and the following entries:

   http://newvaluestreams.com/wordpress/?p=66

   http://newvaluestreams.com/wordpress/?p=84

   http://newvaluestreams.com/wordpress/?p=65

   http://newvaluestreams.com/wordpress/?p=36
3. Blythe, M. (2004). Funology: From usability to enjoyment. Springer. Introduction, pp xii – xix.
4. Desmet, P.M.A. and Hekkert, P. (2007). Framework of product experience. International journal of design, 1(1), 13-23.
5. Gilmore, J. (2003, Fall). Frontiers of the experience economy, Batten Briefings.
6. Jordan, W. (2000). Designing pleasurable products. CRC Press. Chpt.1: Pleasure with products, pp. 1-10.
7. McMullin, R. (2000). The new handbook of cognitive therapy. Norton. Chapter 1: Teaching the ABCs, pp. 7-36; Chapter 2: Finding the beliefs, pp. 37-75.
8. Moggridge, B. (2007). Designing interactions. MIT Press. Forward: What is interaction design? pp ix-xix and Chpt. 10: People and prototypes, pp 643-664.
9. Norman, D. A. (2008). The design of future things. Basic Books. Chpt 1: Cautious cars and cantankerous kitchens, pp 1-34.
10. Postrel, V. (2003). The substance of style: how the realm of aesthetic value is remaking commerce, culture & consciousness. Harper Collins, Chpt. 1: The aesthetic imperative pp. 1-33
11. Szegedy-Maszak, M. (2005, Feb). Mysteries of the mind. U.S. News & World Report.
12. Zaltman, G. (2003). How customers think: Essential insights into the mind of the market. Harvard Business School Press, Chpt. 2, A Voyage to New Frontiers", pp. 27-43.

Required: 1, 2, 4, 5, 7 and 12; Optional: 3, 6, 8, 9, 10 and 11

Reading for Class One:

1. Clare, M. (2008). Cognitive design: A textbook. Unpublished Manuscript. Selected readings TBD.

2. Clare, M. (2008), Cognitive design blog. http://newvaluestreams.com/wordpress/?s=lottery.

3. Mainelli, M. (2006, Sept. 25). Why do people play the lottery? Make up your mind! Lecture presented at Gresham College, London.

4. Read personal accounts of why people play lotteries on Amazon Answers and Google Groups:

   http://answers.yahoo.com/question/index?qid=20070508044623AAQlnPz

   http://groups.google.com/groups?q=why+do+people+buy+lottery+tickets&hl=en&um=1&sa=X&oi=groups&ct=title

Required: All

Reading for Full-Day Session Two:

1. Camerer, C. et al. (Eds.), Advances in behavioral economics. Russell Sage Foundation, 2004, Chapter 26: Out of control: visceral influences on behavior.

2. Clare, M. (2008). Cognitive design: A textbook. Unpublished Manuscript. Selected readings TBD.

3. Clare, M. (2008), Cognitive design blog. Review the following entries:

   http://newvaluestreams.com/wordpress/?cat=4

   http://newvaluestreams.com/wordpress/?cat=6

4. Frijda, N.H. (2004) Laws of emotion. Lawrence Erlbaum. Chapter One: Laws, pp 1-22.

5. Gladwell, M. (2005). blink: the power of thinking without thinking. Little, Brown and Company. Chapter 1: The theory of thin slices: how a little bit of knowledge goes a long way, pp. 19-47.

6. Krippendorff, K. (2006). The semantic turn: A new foundation for design. Taylor and Francis, pp 47 -63.

7. McDaniel, M. (2007). Prospective memory. Sage. Chapter 9: Prospective memory as it applies to work and naturalistic settings

8. Moggridge, B. (2007). Designing interactions. MIT Press. Chapter 10: People and prototypes, pp. 665-682.

9. Zaltman, G. (2003). How customers think: Essential insights into the mind of the market. Harvard Business School Press. Chapter 4: Interviewing the mind/brain, pp. 73 – 99.

Required: 1, 2, 3, 5, 7, 8 and 9; Optional: 4 and 6

Reading for Class Two:

1. Clare, M. (2008). Cognitive design: A textbook. Unpublished Manuscript. Selected readings TBD.

2. Clare, M. (2008), Cognitive design blog. Review the following entries:

   http://newvaluestreams.com/wordpress/?cat=16

3. Deutschman, A. (2005, May). Change or die. Fast Company.

4. Young, D. (2003, May). Asheville project improves patient outcomes, cuts medical costs. American Society of Health-System Pharmacists.

5. In R. Baumeister & K. Vohs (Eds.) Handbook of self regulation: Research, theory and applications. The Guildford Press, 2004. Chapter 2: Self-regulation of action and affect, pp. 13-33; Chapter 5: Self-regulatory strength, pp. 84-96; Chapter 7: Self-regulation and behavior change, pp. 135-139.

Required: 1, 2 and 4 Optional: 3 and 5

Reading for Class Three:

1. Cameron, C. et al. (Eds.) (2004). Advances in behavioral economics. Russell Sage Foundation. Chpt. 5: Prospect theory in the wild: Evidence from the field, pp. 148-161.

2. Clare, M. (2008). Cognitive design: A textbook. Unpublished Manuscript. Selected readings TBD.

3. Clare, M. (2008), Cognitive design blog. Review the following entries:

   http://newvaluestreams.com/wordpress/?s=%22financial+products%22

4. Fox, J. (2005, Mar 21). Why Johnny can't save for retirement. Fortune.

5. Mitchell, O. and Utkus, S. (2004). Pension design and structure: New lessons from behavioral finance. Chapter one: Lessons from behavioral finance for pension plan design, pp 3-43.

6. Thaler, R. and Benartzi, S. (2003, July). Save more tomorrow: Using behavioral economics to increase employee savings.

7. Trout, J. D. (2005). Paternalism and cognitive bias. Law and Philosophy, 24 (skip sections III and IV)

8. Briefly review the excellent catalog of cognitive biases on Wikipedia: http://en.wikipedia.org/wiki/List_of_cognitive_biases

Required: 2, 3, 5 and 8; Optional: 1, 4, 6 and 7

Readings for Full-Day Session Three:

1. Clare, M. (2008). Cognitive design: A textbook. Unpublished Manuscript. Selected readings TBD.

2. Clare, M. (2008), Cognitive design blog. Review the following entries:

   http://newvaluestreams.com/wordpress/?p=48
   http://newvaluestreams.com/wordpress/?p=67
   http://newvaluestreams.com/wordpress/?p=80
   http://newvaluestreams.com/wordpress/?p=94
   http://newvaluestreams.com/wordpress/?p=49

3. Boswijk, A., et al. (2006, Jan). A new perspective on the experience economy. Working paper, European Centre for the Experience Economy.

4. Heath, C. & Heath, D. (2007). Made to stick: why some ideas survive and others die. Random House. Introduction: What sticks?, pp. 3-24; Idea clinic: Simple, pp. 37 – 41; Idea clinic: Unexpected, pp. 77-79; Idea clinic: Concrete, pp. 86-87; Idea clinic: Credible, pp. 123 – 126; Idea clinic: Emotional, pp. 192–195; Idea clinic: Story, pp. 215–217.

5. Lidwell, W., et al., (2003). Universal principles of design. Rockport Publishers. Cognitive dissonance, pp. 36-37; Expectation effect, pp. 68 -69; Framing, pp. 92-93; Mental models, pp. 130- 131.

6. Moggridge, B. (2007). Designing Interactions. MIT Press. Chapter 10: People and Prototypes, pp 683 -723.

7. Norman, D. (2003). Emotional design, why we love (or hate) everyday things. Basic Books. Chapter 1: Attractive things work better, pp. 18 – 33.

Required: All

Readings for Class 4:

1. Clare, M. (2008). Cognitive design: A textbook. Unpublished Manuscript. Selected readings TBD.

2. Clare, M. (2008), Cognitive design blog. Review the following entries:

   http://newvaluestreams.com/wordpress/?p=81
   http://newvaluestreams.com/wordpress/?p=52

3. Godin, S. (2001). Unleashing the idea virus, Hyperion. Section 2: How to unleash an idea virus, pp. 39 – 78; Section 3: The idea virus formula, pp. 78 – 104.

4. Holahan, C. (2006, July 23). Raising the bar of viral web ads. BusinessWeek. Go to the website to read article and watch videos:
   http://www.businessweek.com/bwdaily/dnflash/content/jul2006/db20060724_535865.htm

5. Kirby, Justing & Marsden, P. (2005). Eds. Connected marketing: The viral, buzz and word of mouth revolution. Butterworth-Heinemann. Introduction and summary, pp. Xvi – xxxv; Seed to speed: how seeding trials ignite epidemics of demand, pp. 4 –22.

6. Usborne, N. et al. (2006, Nov 14). Can viral video clips drive targeted traffic? Journal of Marketing Experiments.

Required: 1, 2 3 and 4; Optional: 5 and 6

