

THE DECONSTRUCTIVE DISCOURSE AS A GENERATIVE THINKING TOOL

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Keywords: Card Sorting, Deconstruction, Design Education, Representation, Design Methods Assessment, Brainstorming Methods

1. Introduction

Strategies, systems, experiences and services are part of the new challenges faced today by design students and designers. These challenges include shifting audiences with specific needs due to the broad offer of services and products that often create new needs. These needs include limited resources, sustainable solutions with low environmental impact, and production costs. Besides, there is a great demand for multidisciplinary designers that are able to generate and perform ideas in a co-creation environment. [AIGA, 2009; International Council of Graphic Design Association, 2011].

An approach to meeting these challenges can include an open-ended, scaffolded brainstorming process. This might involve design students and designers, instead of advancing towards potential solutions from an *unstructured* ideation process. Structured methods have many benefits such as collaboration between teammates, ordered and constructive creative sessions as well as increased efficiency. [OpenIDEO, 2011]. One structured method that has found a place inside classrooms across the world is the Deconstructive discourse, in the areas of philosophy, linguistics, architecture, and others. [Higgs, 2002; Hong, 2004; Stephens, 1991].

This paper describes the process, and findings of building a creative framework based on the Deconstructive discourse and its implications in the learning process of design students. Deconstruction provides a structured way of analyzing complex problems. An example of successful application of Deconstructionist theories in design education is the academic work of Cranbrook Academy of Art. In the late 1980 and early 1990s under the direction of Katherine McCoy, Graphic Design students explored the semantics and syntax of their. [Lupton, 1991]. This demonstrated the importance and the value of the Deconstructive discourse in the studio classroom. As a result, its use as a critical tool it exposed the gap between sign and meaning in the context of culture [Higgs, 2002; Lupton, 1991; Walker & Dell, 2008].

This research follows the definition of Deconstruction as a mode of questioning stereotypes, traditional ideas and popular views by comparing them and exploiting their visual and verbal signs for their meanings. [Hong, 2004; Lupton & Miller, 1994; The Museum of Modern Art, 1988]. This paper explores the use of Deconstruction as a generative thinking tool, that correlates the effort to educate students on the rationality of a design. [Hong & Hwang, 2006; Loscialpo, 2012; Poynor, 2003].

1.1 Context

In 1982, philosopher Jacques Derrida and architects Peter Eisenman and Bernard Tschumi worked on a project called *Parc de la Villette*, an urban park located in the 19th *arrondissement* in Paris, as part of an urban redevelopment effort by the city. The place designated for the park was the former slaughterhouse and wholesale meat market area built by Napoleon III in 1867.

Following the idea of Deconstruction fostered by Jacques Derrida, Bernard Tschumi defined a series of spaces that were located in the existing grid left by the previous buildings. By reviewing the relationship between what existed and what will exist in the same location of the grid, the architect denied the symbolic idea of a space that belonged to the erased market and the slaughterhouse and it became an urban refuge or *follie* re-inscribed with a new meaning. (See Figure 1). *Follies* were not only empty spaces that referred to something but they also functioned as directing cues for the visitors of the park. *Parc de la Villette* was completed in 1987 and became one of most important parks in Paris with cultural venues such as the *Conservatoire de Paris*, the *Philharmonie de Paris* and the City

of Science and Industry. [Cruickshank, 2010; Derrida & Eisenman, 1997; Hardingham & Rattenbury, 2011; Rago, 2004]

Figure 1. Deconstructive ideation structure of the follies at *Parc de la Villette* (Paris)

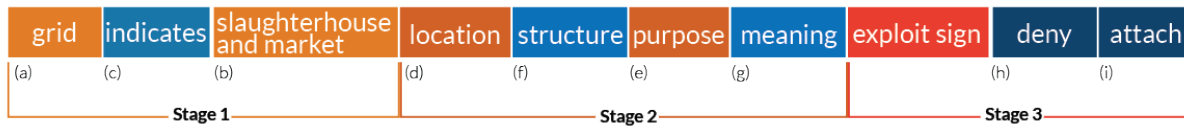


Figure 1 illustrates the project of *Parc de la Villette* as a three stage deconstructive process between two correlated (c) elements, (a and b), that question (d and e) its stereotypes (f and g) to create new meaning and then exploit them with different representation methods (h and i).

2. The Framework

2.1 Structure

The Deconstruction-based creative framework proposed here introduces design students to the rationality of a solution by presenting the idea of sign and the elements involved in the creation of meaning. There are three basic stages involved in Deconstruction (Table 1). [Cruickshank, 2010; Hong & Hwang, 2006; Lupton & Miller, 1994; Wigley, 1995]. The first stage deals with the creation of a binary, terms or ideas that have opposing meanings. The second stage approaches the assumptions and contradictions that invite to question and critique the fundamentals of the binary. The third stage concerns exploiting the semantics of the binary based on the analysis of those contradictions and assumptions. The framework presented in this research is based on these three stages. It is implemented as a card sorting method that consists of three groups of cards, each one representing a single stage in the process.

A set of operators connect each stage to facilitate the questioning of a binary and at the same time guides the user through the framework. (Table 2). This operators rely on several elements related to the sign theory and the way meaning is created in Stage 1 and 2 and representational tools used in Deconstruction from an aesthetic viewpoint according to the research presented by Professor Dong-Sik Hong from Tongmyong University of Information Technology in Busan South Korea. [Hong & Hwang, 2006].

Table 1. Framework stages

Stage 1: Pair Binary	Stage 2: Assumptions and Contradictions	Stage 3: Exploit Signs
Set of ideas that have a fixed relationship in Western Culture.	Similitudes or differences that raise questions between the ideas paired in the binary.	Visual and verbal signs with multiple meanings as well as the pattern they generate.

Table 2. Framework operators

Stage 1 Operator: Question	Stage 2 Operator: Analyse	Stage 3 Operator: Represent
Idea A depends on Idea B Idea A is caused by Idea B Idea A over Idea B Idea A symbolises Idea B Idea A is a subordinate of Idea B Idea A resembles Idea B Idea A is the opposite of Idea B Idea A indicates Idea B Idea A is a special case of Idea B Idea A is a metaphor of Idea B	Meaning Function Style Structure Signs Context	Break down Attach Duplicate Repeat Interrupt Separate Slant Deny

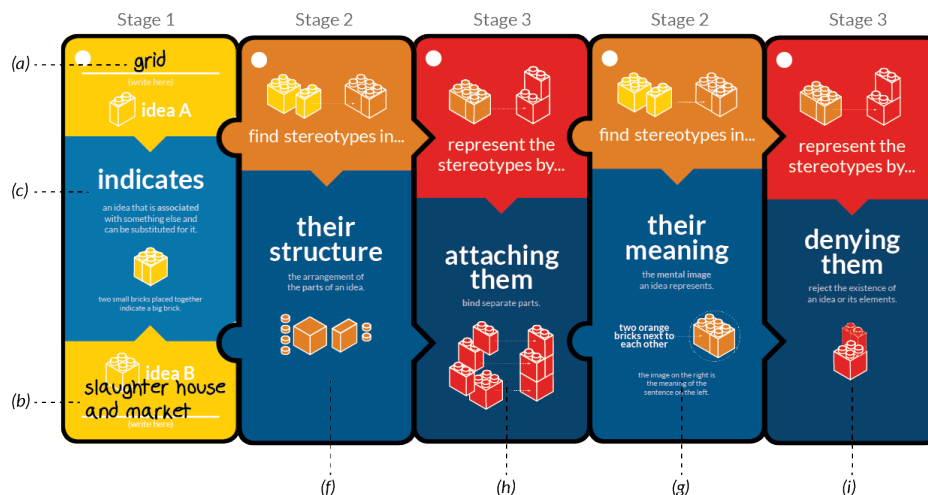
2.2. Card Deck

Card sorting is a qualitative and exploratory research technique. This method allows the finding of patterns in the users’ mental models and behaviours while involving them in the creative process. It also grants the development of critical thinking at the same time categorising and relating objects. [Slegers & Donoso, 2012; Spencer, 2009; Spencer & Warfel, 2004].

In this framework three groups of cards were created to build a hierarchical organized structure. Each group represents one of the three stages involved in the Deconstructive process and contains multiple operators that connect one stage to the other. Different visual and physical characteristics were assigned to the groups like tessellated shapes similar to a jigsaw puzzle that can be interlocked with the following stage: a half circle for Stage 1 and half rhombus for Stage 3.

The cards are also colour coded to a particular stage, as a way to give feedback to the student: yellow for stage 1 cards, orange for stage 2 and red for stage 3. The design of the card includes the name of the stage (Table 1), one operator (Table 2) as well as a definition exemplified by building bricks. This exemplified visual representation in the cards act dynamic elements that are able to transform, connect and adapt as they represent different moments in the ideation process externalizing them through a mental model represented in the card structure. Following the example from Section 2.1, the structured generative ideation process of the *follies at Parc de la Villette* can be represented with the cards as shown in Figure 2.

Figure 2. Card structure of Deconstructive process



3. Assessment of the Framework

The framework was assessed in two ways. First, a summative performance assessment that requires the subject to demonstrate a task using higher order skills such as creating and innovating. Second a diagnostic assessment to determine the skills acquired from the framework. [Allen, 2008; Southern Association of Colleges and Schools Commission on Colleges, 2012; Stiggins, 1987; Teach For America, 2010]. For each assessment, three groups of rubrics were defined to measure the responses and performance. In the summative performance assessment the rubrics were tied to the way the framework was used and applied during each one of the stages of the Framework (Table 3). In the second set of rubrics, the diagnostic assessment measured the usability of the different elements, the level of understanding in the examples and the effectiveness of the designed tools (Table 4).

Table 3. Rubrics for Summative Performance Assessment

Stage 1	Stage 2	Stage 3
<ul style="list-style-type: none"> •Two elements are paired by using the right operator. (+2) •Two elements are paired but there is no logical use of an operator card in the binary. (+1) •Two elements are paired but no relation between them. (-1) •There is no understanding of the idea of binary pairing. (-3) 	<ul style="list-style-type: none"> •By using different analysis operators the subject finds assumptions or contradictions in the binary. (+2) •Subject uses operators but is unable to find assumptions or contradictions in the binary. (+1) •No logical relation between operators and assumptions. (-1) •No evidence of assumptions or contradictions. (-2) 	<ul style="list-style-type: none"> •Representation tools are used in a logical way, and the result is coherent with the design process. (+2) •Representation tools are used but the result is incoherent with the process. (+1) •The subject struggles to use the tools and to set a strategy. (-1) •No evidence of using tools to generate a strategy. (-3)

Table 4. Rubrics for Diagnostic Assessment

Design	Readability	Examples
<ul style="list-style-type: none"> •Design is clear to the user. Tools are used in a logical way. Follows the rules of the framework. (+2) •Design is clear to the user takes time to understand it. (+1) •Design is confusing. Tools are used, rules are not followed. (-1) •There is no evidence of understanding the tools. (-2) 	<ul style="list-style-type: none"> •Texts are easy to read and definitions are clear. (+2) •Texts are easy to read but definitions are difficult to understand. (0) •Definitions are difficult to understand. (-2) 	<ul style="list-style-type: none"> •Examples help to clarify concepts. Student reads them and then acts. (+2) •Examples are good but don't clarify the concepts and tools. (-1) •Examples are not clear and generate confusion. (-3)

4. First Evaluation: A Pilot Study

A pilot study was scheduled with 5 designers with ages ranging from 18 to 27 years old: 1 freshman student, 1 junior student, 1 recently graduated designer and 2 professional designers. Each one represents a particular stage in the professional life of a designer. The main objective of this pilot study was to set the duration, the pace, and find issues the subjects might come across as well as the tools they might need while using the Framework. This pilot study required the students to work on their ideas individually. It is important to note that while the Framework's main intention is focused on early design students, involving professional designers in this pilot study allowed also to measure its applicability in real life situations from the design practice.

4.1. Task

The task for this test was adapted from the Electrolux Design Lab Contest which focuses on the changes and challenges design has, inspired in urban living and the need for sustainable design [Electrolux Design Lab, 2013]. This task was based on the broad opportunities it offered to the subjects in terms of creativity and their level of knowledge. They were asked to propose a solution using the framework based on any of the three topics in the task summary: Social Cooking, Natural Air and Effortless Cleaning. The test session was recorded using video and photographic cameras. Later, the process and the outcome were evaluated following the two sets of rubrics defined for this study and a series of experience maps was generated to evaluate patterns in the use of the different tools and identify potential issues.

4.2 Findings

The results from the preliminary test suggested the potential of this framework for designers. The first stage showed more activity and less mastery in the use of the tools, mainly because the students discovered how to use the framework and the workbook—a supplement that helped students use and understand the cards. The pages were designed as a journal that involved the exploration of the cards while justifying their rational process when generating an idea. This process builds self-criticism and critical thinking of the subjects upon passing to the different levels of the Deconstructive process leading to skills that are learned, mastered and used in their design methods. By doing this, the subjects recognized a problem, structured a possible solution, drew conclusion and rendered judgment about the final outcome. The workbook played an important role in the assessment, especially to give context to the subjects in the validation process of the framework. It guided them through the entire deconstructive process; they were able to find assumptions and contradictions in their binaries. It was common for all the subjects to spend more time in Stage 3 (exploit signs) with structured activities while representing their ideas by applying deconstructive thought to their designs. There was evidence that they were able to use the cards and the workbook in a logical way, especially when pairing two elements to create a new binary.

5. Second Evaluation: Iterating the Framework

A complete test of the framework was done during the last week of September of 2013. 5 freshman students were invited to be part of the research. They were selected based on their overall performance in their Introduction to VCD class taught by the author of this study and were awarded extra credit for their participation. Their ages ranged from 18 to 21 years old and all subjects had no previous knowledge of Deconstruction.

5.1 Task

The test procedure was scheduled during a weekend day for a time of one and a half hours and took place in one of the studio rooms at the Visual Communication Design School at Kent State University. The studio was an open space with no external noise that guaranteed their full attention during the test. Video cameras were set up in the room to record their work and interactions with the cards and workbook, according to the same procedure followed in the pilot study. For this test the design brief was based on a Design contest organized by the Italian brand Alessi. This brief focused on the search for new ways to rethink the act of giving something as a way to express love through an emotional object such as a wedding favor, accessories for home or small bijoux pieces [Alessi, 2013].

5.2 Findings

The study was scheduled to last one hour, but the average time was 45 minutes, which in comparison to the pilot test, lasted 52% less, mainly to fact that the subjects involved were non-native English speakers and this affected their overall performance.

The self-assessment results presented positive results. All of the subjects considered the design of the workbook and the cards as clear and easy to understand, however, they recognized taking time to understand the different tools available. They also considered the examples and the definitions clear and helpful. As expected the primary activities were using the workbook, sorting cards, and reading instructions and examples. This evaluation also showed that Stages 1 (Pair Binary) and 3 (Exploit Signs) were the most common to have ideation moments as well as sketching ideas on the workbook. Writing became a supporting activity that complemented reading, sorting and using the workbook and a way to link between creating ideas and justifying them as part of the process.

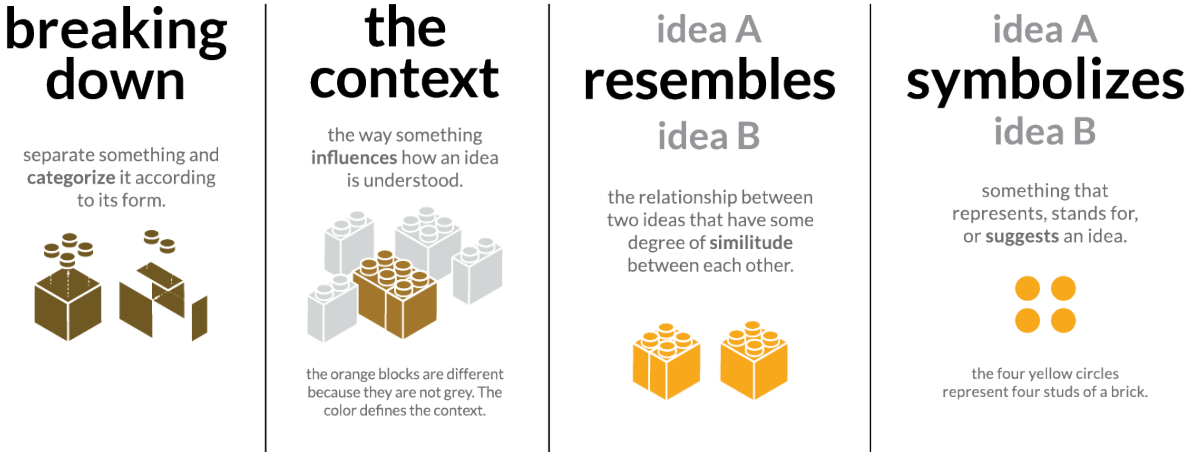
6. Third Evaluation: Second Iteration of the Framework

Following the results and comments from the preliminary test and the first iteration, the next step was to define the objectives for a second iteration as defined in the research plan. The evaluation of the activities carried out by all the subjects in the previous tests suggested that they spent an average of 75.6% of their time in secondary activities. Reading, writing and following instructions left little time for the primary activity of building a structured idea. This led to the conclusion that it was necessary to shift the attention from the workbook to the cards while shortening the amount of time generating new ideas.

6.1 Task

The design of the cards was re-evaluated in order to reduce the complexity of the information given at the moment of creating a structure and most of the content present in the workbook was integrated into them. To validate the understanding and clarity of the definitions from Iteration 1, a close-ended survey was made available using a Google Docs to 57 subjects. 45 freshman students from the School of Visual Communication Design and 12 graduate or professional Designers participated. The results showed that out of the 23 definitions used in the framework, 13 were clear enough to be understood by 60% of the subjects, and only 5 were understood by more than 80% of the respondents. New definitions were created with the only objective of being simple and clear by using nontechnical words. Visual representations of building bricks were also added to exemplify them (See Figure 3), similar to the dynamic of the Lego© Serious Play™ strategy where bricks are used as metaphors of processes [Frick, Tardini, & Cantoni, 2013].

Figure 3. New definitions and representations



Some of the objectives of this redesign included simplifying the instructions and the workbook by merging them into the definitions and generating a “conversation” between the cards and the user. Certain elements present in the first two iterations were eliminated to avoid multiple interpretations of

the icons, colour, and supporting text. An additional change included improving the colour codes of the cards and presenting a clearer hierarchy between stages and operators by using a gradient of colours between each stage.

7. Discussion

The continuous improvement of all the components of this framework is based on the results of the evaluations and feedback from the subjects. The first level of this evolution focused on building a structure that was easy to use and led to deconstructive critical thinking, later validated with a pilot evaluation. From there, the objective was refining the content by constructing the proper definitions and examples that supported the card sorting process. Later, the attention shifted into building a feedback system that provided visual and cognitive cues on the expected way to use the framework in the form of tessellations in the cards.

Even when difficulties were found along the way during the development of this framework, the results were positive and optimistic. The success of this framework can be measured by the comments received from the students through the different tests, they were positive and it showed that the students were able to recognise the importance of Deconstruction in design citing originality, the ability to look beyond, and to edit previous thoughts:

- *“I think it is because it allows designers to create ideas and make new ones. It also allows them to think outside the box for something a little more or[i]ginal.”* S.L (Freshman Student)
- *“[...] Because without deconstruction designers might not be able to look past the image and figure out what it means or how it affects people”* J.F (Freshman Student)
- *“Yes, it allows them to edit a previous thought and helps them find ways to change the idea and apply those changes to the idea.”* B.B (Freshman Student)

They also considered several aspects of the framework as an advantage including the possibility to look deeper into an idea, using the cards to organise thoughts as well as the relation between two concepts:

- *“I came across some things that i never really thought about my subject that gave me a new way of seeing said objects.”* B.B (Freshman Student)
- *“It helps to look deeper into things and understand them differently so you can view/con[s]truct them differently, or even design them differently.”* S.L (Freshman student)

The surveys asked the subjects to rate different aspects of the Framework: their outcome, the ease of use, the applicability of the framework, the simplicity of the tools, and the definitions; all of those aspects received a minimum grade of 4 points out of 5 possible points. Their general comments on the experience of using a Deconstructive framework were also positive and insightful. Some of the subjects agreed that it helped them look at things in a different and beneficial way:

- *“It was a very interesting experience. It changed the way I thought about how new ideas are generated and taught me some of the many steps it takes to have a good idea.”* S.L (Freshman student)
- *“I liked it. It made me think that something so simple can have a deeper meaning to it than what's on the surface.”* C.T (Freshman student)
- *“I really enjoyed playing with the cards and creating an idea. Sometimes you miss the obvious or don't go beyond what you already know.”* S.F (Professional Designer)

8. Conclusions

Derrida once said, *“what is repressed does not disappear but always returns to unsettle every construction, no matter how secure it seems”* [Taylor, 2004].

This paper has sought to develop and validate a Deconstruction-based tool for generative ideation presented as a card sorting method. The results indicate that questioning stereotypes by using an open-ended structured tool is an effective way to generate ideas (**by..**). The correlation between sign and meaning in a cultural context is a key factor for exploring complex design challenges. By breaking stereotypes and approaching an idea from several points of view, designers and design students can create projects that can be developed in a collaborative environment.

The diversity of the outcomes proposed by the subjects showed evidence that the framework is a flexible tool that can be adapted according to the needs of the designer. It only requires knowledge of the basic theory of semiotics, which makes it very appropriate for a wide range of users. Deconstruction helps the creation of new meaning by understanding an idea from its many angles and therefore prevents leaving its alternative meanings out. Every single idea that has a meaning is conditioned by the experience of its creator, and it takes those experiences and transforms them into tangible outcomes.

8.1. Future applications

This research is a work in progress and is just the first step into the approach of generative ideation by using structured tools that aid the brainstorming process of creative solutions. A free version of the framework including the cards will be made available online as a downloadable file for private use by using the Creative Commons license. It allows redistribution, commercial and non-commercial use, as long as it is passed along unchanged and whole, with credit to the author of this study. It is the intention of the author to share the knowledge gained in this study with the entire design and academic community.

Acknowledgements

The author wishes to thank Prof. Sanda Katila from the School of Visual Communication Design for her direction, support and dedication as the research advisor of this study and Prof. Karl Fast from the School of Library and Information Science for his involvement and constructive feedback during the development of this manuscript.

References

- AIGA., "Designer of 2015 Competencies". Retrieved January 28, 2013, from <http://www.aiga.org/designer-of-2015-competencies/>, New York, 2009.
- Alessi., "ALESSI IN LOVE - Every time an act of love." Retrieved September 14, 2013, from <http://desall.com/Contest/Alessi-In-Love--Every-time-an-act-of-love/Brief>
- Allen, Mary J., "Strategies for Direct and Indirect Assessment of Student Learning". Paper presented at the SACS-COC Summer Institute, Orlando, FL, 2008.
- Cruikshank, L., "The Case for a Re-Evaluation of Deconstruction and Design; Against Derrida, Eisenman and their Choral Works". In E. Corte-Real (Ed.), *O Triunfo do Desenho* (pp. 353-361). Lisbon, Portugal: Livros Horizonte, 2010.
- Derrida, J., & Eisenman, P., "Chora L Work"s (J. Kipnis & T. Leiser Eds.): The Monacelli Press, 1997.
- Electrolux Design Lab., "Brief and Theme 2013", Retrieved September 14, 2013, from <http://electroluxdesignlab.com/en/brief-and-theme-2013/>
- Frick, E., Tardini, S., & Cantoni, L., "LEGO®SERIOUS PLAY® A state of the art of its applications in Europe" (pp. 28). Switzerland: Università della Svizzera italiana, 2013.
- Hardingham, S., & Rattenbury, K., "Parc de la Villette: SuperCrit #4" (Vol. 4): Routledge, 2011.
- Higgs, P., "Deconstruction and re-thinking education". *South African J. of Education*, 22(3), 170-176, 2002.
- Hong, D., "A Study on the Deconstructionist Representation in Graphic Design". Paper presented at the 6th Asian Design Conference., Tsukuba, 2004.
- Hong, D., & Hwang, M., "The Status and the Prospects of Deconstruction in Graphic Design". Paper presented at the WunderGround: 2006 Design Research Society International Conference, Lisbon, 2006.
- International Council of Graphic Design Association. "Icograda Design Education Manifesto 2011". Retrieved September 5, 2013, from <http://www.icograda.org/education/manifesto.htm>, 2011.
- Loscialpo, F., "Fashion and Philosophical Deconstruction: a Fashion In- Deconstruction". Paper presented at the CEPHAD 2010 Copenhagen Working Papers on Design, Copenhagen, 2012.

Lupton, E., "The Academy of Deconstructed Design". *Eye*, 1(3), 1991.

Lupton, E., & Miller, J.A., *Deconstruction and Graphic Design: History Meets Theory*. *Visible Language*, 28(4), 352, 1994.

OpenIDEO. "7 Tips on Better Brainstorming". *OpenIDEO Team Notes*. Retrieved December 4th, 2013, from <http://www.openideo.com/fieldnotes/openideo-team-notes/seven-tips-on-better-brainstorming>

Poynor, R., "No More Rules: Graphic Design and Postmodernism" (pp. 38-69): Yale University Press, 2003

Rago, D., "Deconstruction Architecture and Daniel Libeskind" (pp. 9): School of Architecture, Lehigh University, 2004

Slegers, K., & Donoso, V., "The impact of paper prototyping on card sorting: A case study". *Interacting with Computers*(24), 351-357, 2012.

Southern Association of Colleges and Schools Commission on Colleges). *Assessment Plans* (pp. 20), 2012

Spencer, D., "Card Sorting: Designing Usable Categories" Brooklyn, New York: Rosenfeld Media, 2009.

Spencer, D., & Warfel, T., "Card sorting: a definitive guide". Retrieved from <http://boxesandarrows.com/card-sorting-a-definitive-guide/>

Stephens, M., "Jacques Derrida". *Los Angeles Times Magazine*, 1991.

Stiggins, R., "Design and Development of Performance Assessments". *Educational Measurement: Issues and Practice*, 6(3), 33-42, 1987.

Taylor, M., "The real meaning of deconstruction", *The New York Times*, October 15, 2004.

Teach For America. "Instructional Planning & Delivery". In T. F. America (Ed.), (pp. 11-35). New York, NY: Teach For America, 2010.

The Museum of Modern Art. "Deconstructivist Architecture". In MOMA (Ed.). New York: The Museum of Modern Art, 1988.

Walker, R., & Dell, S., "Deconstructing Fashion Design: Integrating Theory and Practice in Design Education". Paper presented at the *Learning from Research*, Sussex, 2008.

Wigley, M., (1995). "The Architecture of Deconstruction: Derrida's Haunt" (New edition ed.). Cambridge, MA: The MIT Press, 1995.

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