

RESEARCH METHODS AP-520

The Multigenerational Workplace

Research Methods

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Research Methods Study

	Case Studies	Narrative Inquiry	Visual Research
Field: Context	Case Studies are employed in traditional social sciences & practice oriented fields.	Narrative Inquiry (NI) is employed in medicine, law, cultural anthropology, sociology, education, literature, history, and theater. NI in interior design “acknowledges the nuances in progress,” (Dohr, 2010a)	Visual Research (VI) is used for explaining the physical environment (Sanoff, 1991, p. xv). Environmental research fields using VI include architecture, interiors, planning and landscape design.
Content/Topic (Question)	<ul style="list-style-type: none"> • Empirical inquiry • Suited for questions of “complex social phenomena” (Yin, 2003, p. 2) • Used as a teaching & record keeping tools are different than CS research version • “Describe & diagnose single, internally complex objects (Zeisel, 2006, p. 98). 	<ul style="list-style-type: none"> • “Scholarship of stories” (Portillo, 2000, p. iv). • Incorporates “voice of stakeholders,” persons & places at stake (Dohr, 2010) • Method that “captures life experiences in story where thoughts, actions, in sequence unfold over time, across individual places & events & history” (Dohr, 2010, Ch 2, p. 17). 	<ul style="list-style-type: none"> • Uses “visual elements” rather than “verbal depictions” to investigate physical environment. • Link between visual information and finding meaning from it • “User involvement...central component of the research approach,” (p. xii).
Purpose (Why to use)	<ul style="list-style-type: none"> • answer the how & why questions best • are used when researcher has “little control over events” (Yin, 2003, p. 1) • are used in contemporary “real-life context” (Yin, 2002, p. 1) • can investigate concrete or abstract questions 	<ul style="list-style-type: none"> • explores the depth of how, why, what questions • explains subjective experiences (Budd, 2000) • in practice: for clients who seek innovation and link built environment with organizational business objectives (Budd, 2000) • reveal the wisdom...often hidden” (Dohr, 2010) • captures various voices and experience of practitioners • “allows emotion to merge with logic, setting & happenings” (Dohr, 2010) 	<ul style="list-style-type: none"> • qualitative method in which investigator and those being observed both produce visual documents for study (Banks, 1995) • captures non-verbal messages, in a direct and in-direct ways • to better understand the meaning of place

Table 1. Matrix of Research Methods in Scholarly Cultures Framework

Adapted from “Matrix of Scholarly Cultures by Orientation & Component” (Journal of Interior Design, 2007, p. xiii)

<p>Method (Research Design)</p>	<p>Case Studies:</p> <ul style="list-style-type: none"> are explanatory in nature & generally qualitative information gathering includes: direct observation; interviews, surveys Characteristics <ul style="list-style-type: none"> -single or multiple cases -use CS in conjunction with NI (Danko, 2000; Portillo/Dohr, 2000)) -pilot CS test protocols & procedures 	<p>Narrative Inquiry;</p> <ul style="list-style-type: none"> analysis is exploratory, interpretive & explanatory is largely qualitative techniques used include: interviews(face to face & phone), participant observation, physical mapping, trace analysis, archival research, video multiple techniques can be utilized multiple stories collected multi-disciplinary protocol pilot tested triangulation content analysis 	<p>Visual Research</p> <ul style="list-style-type: none"> techniques for directly experienced spaces include: walk-thru w/description; user maps; photo interviewing; questionnaires; observation other techniques include: sonic mapping; simulation games & 3-D walk thru environments; full scale models photos: inventory, document interactions, time lapse techniques can be self-reported by users or recorded by researchers
<p>Outcome (Analysis)</p> <ul style="list-style-type: none"> Analysis Techniques Verification & Triangulation Findings-Outcome of Work 	<p>Issues for consideration:</p> <ul style="list-style-type: none"> Real or Anonymous Identities Draft of CS reviewed by peers & participants of study 	<ul style="list-style-type: none"> Themes: big ideas, (Dohr, 2010) Domains-established prior & during interviews (C. Budd, 2000) Categories formed after interviews (Danko, 2000) Draft of NI Story reviewed by participants of study for verification protocol 	<ul style="list-style-type: none"> Responses can be verbal, written or visual VR methods facilitate user “buy-in” of design decisions & “increased understanding of decision’s impact” (p. xii) Assists in understanding culture via visual elements
<p>Venue for Sharing (How-Where Results can be utilized)</p>	<p>-In scholarly settings CS are used to inform research. -In practice settings CS can be used to inform the design process and as a prototype for design. -In education as a teaching vehicle.</p>	<p>-In scholarly settings NI is used to inform research. -In practice settings NI used</p> <ul style="list-style-type: none"> inform design solutions tool for space planning; change mgmt strategic issues/cultural shift <p>-In education as a teaching vehicle, via reflections (Black, 2000)</p>	<p>-In scholarly settings VR is used to inform research -In practice settings VR used to</p> <ul style="list-style-type: none"> inform design solutions engage user group in process document current and proposed environments <p>-In education effective for teaching process & information gathering</p>

	Case Studies	Narrative Inquiry	Visual Research
Authors Consulted	Yin, Robert K. Zeisel, John	Budd, Christopher Danko, Shelia Dohr, Joy Riessman, Catherine	Banks, Marcus Budd, Christopher (interview) Sanoff, Henry Zeisel, John
“Cons-Critics” Contend Other Issues to Consider	<ul style="list-style-type: none"> Issues of reliability & generality of findings (Yin, 2003) CS does “not attempt to eliminate what cannot be discounted...simplify what cannot be simplified...includes paradoxes & acknowledges there are no simple answers.”(Reis, 2010, p. 2) 	Budd using NI in practice <ul style="list-style-type: none"> Balance profit & valuable product for client Balance high quality research with consultant costs & schedule Dohr regarding misuse of NI <ul style="list-style-type: none"> Protocols required to ensure that narrative not reflecting personal opinion, unwarranted beliefs or bias 	<ul style="list-style-type: none"> Concerns with “controlling extraneous factions which will affect an observer’s judgment,” Reliability concerns on the relationship b/image & phenomena intended to record People’s ability to read/interpret the images
Other Notes	5 Components of CS Research Design <ul style="list-style-type: none"> Study’s Questions It’s propositions Its units of analysis The logic linking the data to the propositions Criteria for interpreting the findings (Yin, p. 21) Evaluation Research: explain; describe; illustrate; explore; meta-evaluation (Yin, 2003).	Labov: Components of NI <ul style="list-style-type: none"> Abstract (purpose) Orientation (context) Complicating Action (tension) Evaluation (meaning/mindset/attitudes) Resolution (outcome) Coda (lessons) 	Questions to consider in VI techniques: <ul style="list-style-type: none"> What to know about people? What to know about activities? What to know about the setting? What to know about the timing?
Details for Implementation	Yin: <ul style="list-style-type: none"> “...could even do a valid and high-quality case study w/o leaving the library and the telephone or internet, depending on the topic being studied” (Yin, 2003, p. 11). 	Budd: <ul style="list-style-type: none"> 50 narratives/6 wks for 1500 person organization Riessman; Portillo/Dohr; Budd: <ul style="list-style-type: none"> Interviews are recorded & transcribed Portillo/Dohr: <ul style="list-style-type: none"> Issues of whether researcher should maintain a voice in the narrative 	Budd: <ul style="list-style-type: none"> Suggested that information from video narration by user often gives data not secured via any other way Sanoff <ul style="list-style-type: none"> Video permits “action, periods of time and the extent of space... that still pictures cannot,” (p. 14)

Research Methods Outline: Multigenerational Workplace Design

Summary Literature Review

Bridging practice experience and the scholarly culture, this research explores focus work of mobile knowledge worker, those workers, who gather, interpret and transform information for business purposes. “Two thirds of knowledge work today is done outside of corporate facilities,” (Coles, Grantham and Ware, 2009). Offered the choice, (1) where are these mobile knowledge workers getting their focus work done? (2) Why, how and when are they selecting these locations? (3) What physical and operational characteristics are important in selecting these locations? In *The Welcoming Workplace: designing for ageing knowledge workers*, Erlich and Bichard (2008) discuss the implications of focus in the office.

Open plan office design supports work that requires a short attention span, multi-tasking and communicative types of work. The breakdown of walls, borders and private spaces, due in large part to an increased focus on communication, collaboration, democratization and transparency, and coupled with cost considerations, seems to have resulted in neglecting to cater for environments which promote ‘solo knowledge work.’ ... Spaces and environments change what people do at work” (p. 280).

Studying older and younger American workers, Kupritz (2003) concluded that “a pervasive mismatch exists between the universal privacy need for distraction-free work and the reality that most people work in ‘distraction-porous’ (i.e. open plan) workplaces,” (p. 123). Kupritz categorizes focus and concentration work as one aspect of privacy, by defining focus work as the need for “mental concentration and the avoidance of distraction, interruption and noise,” (2003, p. 124). The object of this study is the investigation of focus work in the multigenerational workplace: (1) where do knowledge workers do their focus work? How and in what manner do workers gain focus & concentration in a workplace location? (2) What physical and operational interior space characteristics are related to focus & concentration work? (3) Does this vary with generational culture?

The purpose of this study is to expand on the research of Erlich and Bichard (2008); Kupritz (2003) and Purinton (1997). In what manner does a generational culture influence or relate to a worker's ability to focus at their chosen workplace? This study will contribute (1) to the understanding of the location mobile knowledge workers choose to accomplish focus work; (2) to the analysis of the age of mobile knowledge workers on this choice; and (3) to the investigation of the interior attributes of the location by age of mobile knowledge workers. All of these objectives have an impact on future decisions for the design practitioner, educator and end user.

This outline begins with an overview of the three research questions posed. Characteristics of the case selections are outlined. Preliminary instruments are introduced along with procedures to pilot and conduct the study. Methods to analyze the data are suggested. Potential venues for sharing the data are offered and finally a schedule is outlined.

Research Question

Three research questions are proposed to better understand the relationship of the mobile knowledge worker, their generational cohort, their choice of location to accomplish focus work and the interior attributes/features.

Where: Which location(s) do mobile knowledge workers chose for their focus work? Gensler research (2008) indicates that knowledge workers spend approximately 48% of their work time engaged in focus work. Determining these preferred focus work locations will assist in planning and real estate decisions.

Why: What factors or attributes contribute to the location decision? What physical, operational and/or social attributes are descriptive of each? (e.g. characteristics of an environment that supports focus work.) Understanding the characteristics of these preferred focus work locations will assist in development and planning frameworks.

Generations: Does location choice and interior attributes vary with cohort age group? Analyze the information through a generational lens, seeking patterns based on age cohorts. The research will investigate if there is a relationship between the generation of a worker, where they chose to do their focus work and why.

Generalizing age cohort preferences for focus work will provide choice for workers of all ages to select their best work environment for concentration tasks. (e.g. age and environmental preferences.)

By examining the locations that various generations chose to perform their focus work, what new problems or needs can be identified to establish workplace guidelines and directives to aid in creating interior environments that offer optimal places for focus by all ages of mobile knowledge workers.

Case Selection

Criteria for the case selection will include: (a) characteristics/demographics of the participants; (b) operational criteria of the organization; and (c) visual sample of the interior locations. A “convenient sample” of participants will possess the following characteristics: (1) men and women; (2) ages from 25 to 65+ years old; and (3) tenure within their current position of at least one year. The operational criteria will incorporate: (1) participants from two or three different corporate organizations, from similar business sectors or from similar organizational cultures; (2) participants will have the option to work from their dedicated workstation or from another location within the office or a location outside of the office setting; (3) participants will have access to mobile technology including smart phones and lap tops; (4) participants will not travel for business on average more than 20% of the business week; (5) participants are not required to have a home office; (6) participants will have work responsibilities including “...work responsibilities entailing supervising and evaluating staff, using information technology, conducting meetings, working with clients, promoting the organizational mission, compiling reports, collaborating with co-workers and reporting to higher management,” (Kupritz, 2003, p. 125). The office design of the sample will include: (1) participants will have access to a dedicated workstation in their place of business; (2) dedicated workplace can include open plan workstations as well as private offices. Nominations for potential case settings will be solicited from this researcher’s network of practicing professionals.

Demographics of participants

Using Pew Research Center (2010) methodologies regarding participant ages, four sample age groups are proposed: 65+ year old participants-Traditionalist Generation; 46-64 years old participants-Baby Boomer; 30-45 years old participants-Generation X; and 29 years old and younger-Millennials.

Instruments/Measures

Introduction

Three phases for conducting research are being proposed for this researcher's planning: (1) structured interviews; (2) on line survey questionnaire; and (3) video study. The first phase, structured interviews, will be implemented within the DePaul MAAPS framework. Subsequently, after DePaul, data from the focus interviews will provide information to build the questionnaires. The video study will supplement the focus interview and questionnaire findings.

Designing the Instruments

In designing these instrument, other surveys were examined and modeled for similar questions and techniques: sample questions (Purinton, 1997, p. 154-158); beliefs matrix questionnaire (Kupritz, 2003, p. 112); Oxygenz.com sample questions and graphic format (Johnson Controls, 2010); Work Design Collaborative: Experian Workplace Survey, (Grantham, 2010, p. 1, 15-17).

In Phase 1, a series of questions will be administered via in depth structured interviews, (Appendix A). The interviews will begin with more closed ended survey type questions and will expand to include open ended questions to elicit spontaneous feedback. Interviews will be conducted in person and/or on the telephone. Survey questions will be direct and indirect in nature. Photographs documenting the locations for focus work will be sought, as permitted by the case location corporate policies.

In Phase 2, the on-line questionnaire, using a Survey Monkey-like tool, will offer responses generated from data collected in the focus interviews. The on-line questionnaire may also incorporate images as possible "answers" to control the responses.

The video study concept is modeled after the direct experience space techniques (Sanoff, 1991) and client video ethnography techniques by Christopher Budd's interiors team at STUDIOS Architecture in Washington, DC, (C. Budd, personal communications, August 2, 2010). Selected participants will be asked to reply to questions about their workplace by using a video camera, (Appendix B). Participants will be asked to narrate what they are recording on film during the exercise. The researcher will provide the video camera and instructions for its use.

Quantitative and qualitative measures

Both quantitative and qualitative questions will be investigated. Quantitative questions will be used to record demographic information, locations in which participants perform focus work and factors contributing to a workplace that fosters focus work. Qualitative data will be collected from the focus interviews open ended questions and from the video study. Corroborating data will be investigated.

Procedures

Piloting the survey

The focus interview questions will be reviewed by my network of education and practice advisors. Comments/revisions will be incorporated. The updated version of the focus interviews will be piloted to a group of working professionals representative of the four age cohorts sought in the study. An additional pilot will be conducted with my undergraduate interior design office planning students. Feedback on the clarity, significance and nature of the questions and potential responses will be gathered. Additional revisions to the research instruments will be incorporated as required.

Time limit

The structured interviews will be conducted in person and will be scheduled for thirty minutes. A limited number of interviews may have to be conducted by phone due to scheduling issues. The duration for a phone interview is also expected to be thirty minutes. It is the goal for the on line survey to take an approximately 15 minutes to complete. The video study film length is expected to be 5-10 minutes in length.

Training the assistants

Assistants are not anticipated to be required at this time.

Implementing the Structured Interviews

Nominations for case settings will be reviewed for conformance to stated case selection criteria. Short listed locations will be visited and client contacts interviewed. Finalist locations will be notified and confirmed for participation. Schedules for interviews will be established and introductory letters written. For planning purposes, assume this researcher will conduct 20-30 interviews. Audio recording of interviews is anticipated when authorized by participants.

Coding and analyzing the data from the focus interviews

The qualitative data from the focus interviews will be analyzed by content and protocol analysis. Reviewing notes and photographs, identifying themes and patterns will provide simple descriptive statistics. Further study is required by this researcher on analysis methods.

Venue for sharing the findings

Potential vehicles for sharing the information gathered in this research include: holding a one woman show/presentation for professional colleagues and personal associates; developing an Abstract to present at a national conference: NeoCon, IFMA, IDEC; preparing a course and submitting to IDCEC for CEU certification; designing a course for graduate level credit for high school interior design teachers via Aurora University; writing a course for College of DuPage students on research methods for the office environment; producing video(s) that summarizes the research process and findings; hosting a web site that contains the findings of this research; printing a pamphlet of findings. Final determination of the venue to share the findings will be influenced by time, my academic and professional advisors and by the nature of the findings.

Schedule

Summer Quarter 2010 (June-August) AP-520:

- Prepare this Research Methods document
- Revise/refine this Research Methods document based on Outside Assessor (J. Dohr) feedback

Fall Quarter 2010 (Sept-Dec) - no DePaul course association:

- Receive guidance/comments from Professional (C. Grantham) & Academic (C. Marienau) Advisors
- Revise/Update Research Instrument based on comments from Advisors
- Solicit feedback on Research Instrument from Professional Network
- IRB review/approval process
- Seek nominations for Case Study locations

Winter Quarter 2011 (Jan-Mar) - no DePaul course association:

- Pilot focus interviews to Professional Network & College of DuPage Students
- Revise the focus interview questions from pilot recommendations
- Train selected College of DuPage students as assistants
- Visit and Interview short list of Case Study locations
- Select Case Study locations and establish preliminary schedule
- Write introductory letters to participants
- Review strategies with Advisors

Spring Quarter 2011 (Apr-June) AP-587:

- Conduct Kick off meeting at WorkSpring with Advisors, Assistants, Case Location Representatives
- Confirm Schedules
- Implement Focus Interview Research Instrument
- Breath
- Catalog/categorize data for future analysis

Summer Quarter 2011 (July-Sept)-no DePaul course association:

- Study Content & Protocol Analysis techniques
- Analyze & Interpret data
- Review findings with Advisors
- Discuss options for final package

Fall Quarter 2011 (Oct-Dec) AP-589:

- Synthesize research findings into a “package”
- Plan & Schedule final presentation
- Party

Appendix A
Outline for Focus Interviews and Future Questionnaire

Thank you for agreeing to participate in this interview about your workplace. Your candid responses will add to the research on designing more effective work environments.

The purpose of this study is to examine how & where office workers get their heads down, concentration done. For the purpose of this questionnaire we will refer to this heads down/concentration work as focus work. Specifically we are seeking the following information:

Does the age of an office worker impact how & where they chose to pursue their focus work?

The findings from this research will assist designers of office environments in providing the best possible work places for all work (especially focus work) done in the workplace.

People often work in a variety of locations other than their assigned office, including conference rooms, team rooms, even the company cafeteria. Some times people chose to work at home or in an alternative work place, like coffee shops, public libraries, airports and hotels.

Here are some definitions that will make it easier for you to respond to our questions:

Focus work

Task or projects which require the need for mental concentration, few distractions, interruptions or noise. Sometimes referred to as “heads down work”

Privacy:

Being secluded from the presence of view of others or being free from unsanctioned intrusion.

Average week

Consider a week that is typical for your work load and travel

Designated workspace:

The office or workspace assigned to you by your company

Home office:

An area in your residence where you work

Alternative work places

Public places such as libraries, coffee shops, restaurants, and so on, where you may occasionally work when you are away from your company office or your home office

With that as background, we will be contacting you to schedule our 30 minute in person interview.

Thank you in advance for your time and candor.

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QUESTIONS FOR STRUCTURED INTERVIEWS:

1. How would you characterize your designated workspace at your company office?

- Private Office with full height walls and a door
- Private Office shared with at least one other person
- Cubicle with high panels (cannot see out when standing)
- Cubicle with low panels (can see out when standing)
- Desk in open office with no panels
- Other

2. What is your typical one-way commute time from your home to your designated workspace in your company office?

- Less than 15 minutes
- About 15-30 minutes
- Between 30-60 minutes
- Between 1 and 2 hours
- More than 2 hours

3. Do you work from locations other than the office, including travel for work?

- Yes
- No (proceed to question #6)

- If yes, do you travel for work?
- Average amount of days/month out of the office for travel?

4. Not counting travel for work, how long have you been working from multiple locations?

_____year(s) _____months

5. Did anyone support/help you in adjusting to your multiple work locations?

- My boss/supervisor
- An architect or designer
- A facility manager
- A family member or friend
- A colleague/coworker or mentor
- No one

Research has shown that people in the office environment tend to work in one of four **work modes**: socializing, learning, collaborating and focusing. This survey will investigate **focus**, your work involving concentration and attention to a particular task or project.

6. What tasks do you do that would be considered focus work?

7. In an average week, acknowledging that you will be involved in various work modes, how much of your work time is spent on focus work?

(Please list percentage)

_____%

8. In an average week, is there a particular time **or** day that you prefer for your focus work?

_____ Whenever, it completely varies

_____ Mon-Fri

_____ Sat-Sun

_____ What time of day?

(Select as many as apply)

_____ 5am-8am

_____ 9am-noon

_____ Noon-3pm

_____ 3pm-6pm

_____ 6-9pm

_____ 9-midnight

_____ midnight to 5am

9. In an average week, identify all the locations in which you **currently do** your focus work and the approximate percentage of your time at each location doing focus work? Please indicate the approximate percentage of time at each location.

In the Office

_____ % At my designated workspace in company office

_____ % In a conference room in company office

_____ % At another location in the company office

_____ % At another location in the office (please specify) _____

Outside the Office

_____ % At a third place (like a public coffee shop or library)

_____ % At my client's office

_____ % At my home office

_____ % While I'm commuting

_____ % At another location outside of the office (please specify) _____

10. When choosing your location to do focus work, what factors are most important?

First - select all that apply & Second – circle 3 most important factors

(use these major categories but only offer the options if participant cannot come up with their own responses)

Geographic

- Commute time
- Closer to home for family issues

Interior Features

- Ability to control lighting, ventilation, temperature
- Ability to control music
- Access to window views or daylight
- Access to more desk surface to spread out
- Arrangement of furniture components
- Adjustability of furniture
- Ambiance
- Access to food & beverage

Social

Free from Interruptions

- Free from interruptions of colleagues
- Free from interruptions of phone calls
- Free from interruptions of emails
- Free from other interruptions
- Please specify other type of interruptions _____

Free from Distractions

- Please specify other type of distractions
 - audio
 - visual
 - technological
- Access to colleagues
- Quiet
- Privacy (to prevent others from viewing your work)
- Free to dress more comfortably

Operational

- Access to printed or other material resources
- Access to technology resources
- Access to technology support
- Others _____

11. What technology do you routinely use to get your focus work done?

- | | |
|--|----------------------------------|
| <input type="checkbox"/> pc-desk top | <input type="checkbox"/> ipad |
| <input type="checkbox"/> pc-lap top | <input type="checkbox"/> printer |
| <input type="checkbox"/> cell phone | <input type="checkbox"/> fax |
| <input type="checkbox"/> land line phone | <input type="checkbox"/> other |
| <input type="checkbox"/> smart phone | |

12. In your preferred location for focus work, what is missing to make it ideal for you?

First - Select all that apply & Second – circle 3 most important missing factors.

(use these major categories but only offer the options if participant cannot come up with their own responses)

IS THIS QUESTION IMPORTANT?

Interior Features

- _____ Ability to control lighting, ventilation, temperature
- _____ Ability to control music
- _____ Access to window views or daylight
- _____ Access to more desk surface to spread out
- _____ Arrangement of furniture components
- _____ Adjustability of furniture
- _____ Ambiance

Social

- _____ Access to colleagues
- _____ Quiet
- _____ Privacy

Operational

- _____ Access to printed or other material resources
- _____ Access to technology resources
- _____ Access to technology support

_____ Others _____

13. Option A: How important is it to you to have a space to do your focus tasks in the workplace?

Very Important Not Important
1.....2.....3.....4.....5

13. Option B: How strongly do you feel about this issue of focus in the workplace?

Very strongly Not Strongly
1.....2.....3.....4.....5

14. I am very satisfied with the locations I have to accomplish focus work.

Strongly Disagree Strongly Agree
1.....2.....3.....4.....5

15. I have complete flexibility in selecting the location to accomplish my focus work.

Strongly Disagree Strongly Agree
1.....2.....3.....4.....5

16. How long have you been employed by your company?

_____year(s) _____months

17. What is the name of your position/job title? _____

18. How long have you been in your current role?

_____year(s) _____months

19. Circle your gender

- Male
- Female

20. Circle the range that includes your present age:

- 29 and Under
- 30-45
- 46-64
- 65+

21. If you have any ideas you want to share or general comments.

22. May we photograph your designated workplace?

23. If it is in the office and not your designated workplace, may we photograph the location where you do your focus?

Outline for Video Research

Thank you for agreeing to participate in this survey about your workplace. Your assistance will add to the research on designing more effective work environments. This project will be investigating the locations where you get work done that requires focus.

People often work in a variety of locations other than their assigned office, including conference rooms, team rooms, even the company cafeteria. Some times people chose to work at home or in many “third places” like coffee shops, public libraries, airports and hotels.

Here are some definitions to consider:

Focus work

Task or projects which require the need for mental concentration, few distractions, interruptions or noise. Sometimes referred to as “heads down work”

Average week

Consider a week that is typical for your work load and travel

Designated workspace:

The office or workspace assigned to you by your company

Home office:

An area in your residence where you work

Third places

Public places such as libraries, coffee shops, restaurants, and so on, where you may occasionally work when you are away from your company office or your home office

With that as background, the assignment is as follows:

■ In an average week, identify all the locations in which you **currently do** your focus work?

Using your own video camera, or the one we provided make a video of your preferred location to do focus work.

Narrate what attributes....

Include video of all the features....

Incorporate footage of ancillary factors that contribute to your choice

(E.g. adjacency to the coffee machine or kitchen, lots of storage for your resources...)

There is no right or wrong ideas. The intention is to capture what works best for your focus work.

The average video is about 3-5 minutes long.

Note that no individual names will be identified with the video project. All data will be analyzed by a DePaul University research team.

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Bibliography

Babbie, E. (2007). *The practice of social research*. Belmont, CA: Thomson Higher Education.

A suggestion from my Professional Advisor, this book offers a definition, example or explanation of almost anything related to research methods and I have used it as an encyclopedia or sorts. Babbie, a Professor Emeritus at Chapman University in Orange, CA, has authored numerous text books in addition to teaching sociology at various universities. He has worked on the issue of world hunger and overpopulation, serving on the board of Population Connection and The Hunger Project.

Banks, M. (Winter 1995). *Visual research methods*. Retrieved from <http://sru.soc.surrey.ac.uk/SRU11/SRU11.html>

From the Department of Sociology at the University of Surrey, Guildford, UK, this research brief discusses visual research methods, particularly film. Marcus was a documentary film maker before receiving his PhD from Cambridge in social anthropology. A professor at Oxford, he concentrates on visual anthropology and ethnographic film.

Black, A. L. (2000). Stories of co-op: Reflections in a professional practice course. *Journal of Interior Design*, 26(2), 74-85.

As a Cincinnati alumnus and product of the co-op system, this article resonated with me. Developing stories of co-op experiences enables students to reflect upon, analyze, share and grow from through this process. Black, an Associate Professor of Interior Design, came to education after ten years of practice experience.

Budd, C. (2000). Narrative research in design practice: Capturing mental models of work environments. *Journal of Interior Design*, 26(2), 58-73.

The practice of narrative inquiry by Budd's team at STUDIOS Architecture, masterfully integrates scholarly research methods into the practice of design workplace environments. This article outlines their reasons, methods and successes. Text narratives, photographs and drawing examples illustrate their implementation strategies. Issues regarding budget, schedule and value to their clients are addressed in this real world example of scholarship at work. Budd, a STUDIOS Managing Principal in the Washington DC office, has research based approach to projects with an environmental analysis graduate degree from Cornell.

Coles, D., Grantham, C., & Ware, J. (2009, October 7). Getting real: *Transforming the workplace at scan health*. Presentation at International Facility Management (IFMA) WorldWorkplace, Orlando, FL. Presentation retrieved from <http://www.slideshare.net/jpware/getting-real-transforming-the-workplace-at-scan-health-1309959>

This presentation targeted to facility managers and design/architecture professionals highlighted the process and end product of SCAN Health's total office transformation. Cole, the Director of Workplace Services at SCAN, partnered with applied researchers Grantham and Ware of the Work Design Collaborative, to develop and implement an alternative workplace strategy. Coles was the recipient of the 2009 IFMA National Achievement Award. Grantham and Ware are authors, speakers and workplace strategists on the future of work. The SCAN project embodies characteristics of how offices may be designed in the future and having access to this primer on the SCAN project process will serve as a valuable reference point. The concepts described in this presentation are so forward thinking that currency is not a factor.

Creswell, J. W. (2003). *Research design: Qualitative, quantitative, and mixed methods approaches*. Thousand Oaks, CA: Sage.

After initially rejecting this book as beyond my scope of understanding, I re-examined Chapter 1: A Framework for Design for insights into frameworks in developing a proposal for study. Creswell, an educational psychology professor at the University of Nebraska-Lincoln, systematically outlines the steps in conceiving, designing, implementing and analyzing research. The numerous examples and summaries in each chapter enable the even novice to get through.

Danko, S. (2000). Beneath the surface: A story of leadership, recruitment, and the hidden dimensions of strategic workplace design. *Journal of Interior Design*, 26(2), 1-24.

The use of narrative inquiry explores the impact of the design of a workplace, in the decision making process of a potential candidate. Danko's combination of case study and narrative inquiry included taped interviews on site to generate the data/transcripts. The protagonist of the story, Jill, eventually accepted the position. It was interesting to read in the Author Notes that Jill was listed as "former Director of Organizational Development." Danko, a Professor and Chair of Cornell's Department of Design and Environmental Analysis, has a MID from Rhode Island School of Design in industrial design. Her interests include design as a tool for leadership and social change.

Dohr, J. H. (2010). *Narrative inquiry*. Manuscript submitted for publication.

The author shared four chapters in advance of this book's publication to inform my research methods study. The writings identify an interior design framework & theories; present a case for narrative inquiry as a valid interior design research method; outline methods and provide numerous examples with interpretations. Dohr, Professor Emeritus University of Wisconsin-Madison, is a writer, consultant, frequently speaker/lecturer, interior design education advocate and mentor to many students.

Dohr, J. H. (2007). Continuing the dialogue: Interior design graduate education inquiry and scholarly cultures. *Journal of Interior Design*, 33(1), v-xvi.

This article is an extension of a conversation that began at the Interior Design Educator's Council (IDEC) Conference in March 2007. It should be required reading for all first year interior design graduate students. It poses questions and offers answers regarding approaches to studying interiors; the and/or of "creative and scholarly;" and academic/practice settings. Table 1: Matrix of Scholarly Cultures by Orientation and Component (p. xiii) served as the framework for my investigation of research methods across scholarship component categories. Dohr, a Past President and Fellow of IDEC, writes on education, creativity and narrative inquiry.

Erlich, A., & Bichard, J-A. (2008). The welcoming workplace: Designing for ageing knowledge workers. *Journal of Corporate Real Estate*. 10(4), 273-287.

This article documents a UK study to investigate the needs of older knowledge workers in one global organization. The research team was multi-disciplinary and the research methods included interviews, group discussions and design interventions. Interior and environmental design researchers, human resources, real estate and facilities management professionals will find this of value. Erlich is a psychologist and consultant to the Royal College of Art in London where she advises on research for design innovation and workplace environments. Bichard is trained as a social anthropologist and is a research fellow at the Royal College of Art. The authors have expanded the Welcoming Workplace study research into a book due out in June 2010, *New Demographics, New Workplace: Office Design for the Changing Workforce*. This very current work exactly reflects my topic area. Two additional items of particular note are: older workers do not want to be singled out which brings negative connotations, and their research did not test to see if younger workers at the same organization had similar issues.

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Free Dictionary. Retrieved from <http://www.thefreedictionary.com/privacy>

Online dictionary for a definition of privacy.

Gensler. (2008). *2008 Workplace survey united states: A design + performance report*. Retrieved from http://www.gensler.com/uploads/documents/2008_Gensler_Workplace_Survey_US_09_30_2009.pdf

This widely cited study surveyed 900 US respondents on their workplace, including questions on their company's revenue growth, values, brand and performance. The report is highly visual, with findings reflected in charts, graphs diagrams and photographs. Gensler is a global design/architecture firm focused on business. A similar report on the workplace in the UK is also available. The audience includes Gensler's business clients, design/architecture professionals, facility managers and corporate real estate professionals. The data was being collected prior to the current financial crisis, thus some of the conclusions must be tempered within the economic conditions.

Grantham, C. (2010). *Experian Workplace Survey*. (copy provided by author).

This survey designed to solicit alternative workplace information for a corporate client, provided a detailed example of an online questionnaire implemented in the spring of 2010. The Introduction Section contributed significantly to the introduction and definitions section of my research instrument.

Johnson Controls. (2010). *Generation y and workplace: Annual report 2010.*. Retrieved from http://www.johnsoncontrols.fi/publish/etc/medialib/jci/be/global_workplace_innovation/oxygenz.Par.41451.File.dat/Oxygen%20Report%20-%202010.pdf

Johnson Controls, a global supplier of building management, automotive and power systems sponsored this research project in collaboration with Haworth, the furniture manufacturer and iDEA, the media services agency. Puybaraud and a team of six researchers were responsible for the design, implementation and synthesis of this work. Positioned for the clients of the contributing organizations, the document outlines Generation Y's (Millennial) characteristics and preferences from travel, to the workplace to social networking. The research instrument utilized a graphically pleasing on-line survey of visuals and words to pose the questions. More than 3,000 target 18-25 year old respondents, from across the globe participated. The data was collected from July- September 2009. While this data is very current, the concept that most of the respondents have not yet worked in an office environment, makes those results skewed to their preferences, rather than based on their actual work experiences. This document will provide valuable ancillary information regarding this age group globally. In addition, the survey instrument will inform my investigations on unique research tools.

Jorgensen, D. L. (1989). *Participant observation: A methodology for human studies*. Newbury Park, CA: Sage.

Volume 15 of the Sage Applied Social Research Methods Series, Chapter 6: Observing and Gathering Information and Chapter 7: Notes, Records and Files provided a concise primer on observation and interviews in a scholarly setting. Jorgensen is a sociologist of religion and professor at the University of South Florida.

Kupritz, V. (2003). Accommodating privacy to facilitate new ways of working. *Journal of Architectural and Planning Research*, 20(2), 122-135.

This study addresses how age impacts older office worker's needs. Dr. Kupritz is an associate professor in University of Tennessee/Knoxville's School of Communications. Her research focuses on workplace privacy and communication in the multigenerational workforce. This scholarly journal article relies on data collected from 2001 with a sample of workers between the ages of 35-60. The survey instrument "Beliefs Matrix Questionnaire" (figure 1) (p. 126) identifies the key workplace preferences in an easy to understand format, however the report relies heavily on statistically ranked data displayed in tables. The findings suggest that older workers need different office design features to accommodate their privacy needs.

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McLain-Kark, J. (2000). A strategic story of using computer technology: The EPA project by HOK. *Journal of Interior Design*, 26(2), 25-40.

While the computer technology is dated, the method of researching the effectiveness of 3-D computer simulations on the design process still has validity and interest, due in large part to the stories. Cutting edge technology, at that time, assisted HOK in the design development of a large EPA lab complex. The narrative inquiry research was conducted after the fact, incorporating narratives from the design and client team. McLain-Kark, an interior design professor at Virginia Polytechnic Institute (now Professor Emeritus) studied the integration of computer technologies into the design process. McLain-Kark was in the news in April 2010, criticizing Virginia Tech for the environmentally devastating effects of releasing latex balloons for a student memorial.

Meyerson, J., Bichard, J., Erlich, A. (2010). *New demographics new workspace: Office design for the changing workforce*. Farnham, Surrey, UK: Gower.

This newly released book examines the aging workforce, the impacts of cultural organization and “the nature of work itself in the knowledge economy.” Based on research conducted in the UK, their collaboration, concentration, contemplation framework emerged. Myerson is the director of the Helen Hamlyn Center at the Royal College of Art. He was the principal investigator in the Welcoming Workplace study (2007-2008) upon which this research is based. As an academic, author and researcher he encourages design that improves quality of life. Bichard, a Research Fellow, at the Helen Hamlyn Center, is completing her PhD on inclusive design and design anthropology at University College, London. Her interests include the aging knowledge workforce and inclusive work environments. Erlich is a chartered psychologist engaged in consulting to organizations on management development, training, coaching and evaluation. She has been advising the Royal College of Art on research for design innovation and workplace environments.

New World Encyclopedia. Susanne Langer. Retrieved from
http://www.newworldencyclopedia.org/entry/Susanne_Langer

Susanne Langer, the German born, 1895, American philosopher, wrote of discursive and non-discursive symbols in her best know work *Philosophy in a New Key* (1942). Joy Dohr cited her writings as important to design.

Nonaka, I., & Takeuchi, H. (1995). *The Knowledge-creating company*. New York, NY: Oxford.

Nonaka and Takeuchi were the first to associate the knowledge created at Japanese companies with their corporate success. Transforming tacit knowledge, that which must be experienced, into explicit knowledge, that which can be formally articulated, is premise for their theory of “organizational knowledge creation” (p. x). Both received PhD’s from University of California at Berkley in the 1970’s. Nonaka is a professor in the School of Knowledge Science at Japan’s Advanced Institute of Science and Technology. Takeuchi is a professor of management at the Institute of Business Research at Hitotsubashi University, Japan. Gensler has widely cited this text as the origin of the four ways of working: focusing, collaborating, learning and socializing. However, further investigation with Gensler’s head of research finds there to be no connection between this work and the Gensler four ways of working, which are now widely quoted by the practice literature and furniture manufacturers.

Pew Research Center. (2010, Feb). *Millennials: A portrait of generation next, confident, connected, open to change*. Retrieved from <http://pewresearch.org/pubs/1501/%20millennials-new-survey-generational-personality-upbeat-open-new-ideas-technology-bound>

This 140 page report summarizes the Pew Research on the Millennial generation with data gathered by phone (cell and landline, in English and Spanish, in July and October 2009. These overall findings contribute to the literature of my topic, however in the context of research methods; the demographic analysis of the participants was sought for determining my sampling.

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Pitt-Catsouphes, M., Matz-Costa, C., Besen, E. (2009). *Workplace flexibility: Findings from the age & generation study*. Retrieved from http://www.bc.edu/research/agingandwork/meta-elements/pdf/publications/IB19_WorkFlex.pdf

This report from The Sloan Center on Aging and Work at Boston College, discusses the workplace flexibility findings from their study completed in 2008. Specifics regarding Flexible Place options, their impact on effectiveness at work and work-family culture all have an impact. Pitt-Catsouphes, the director of the Sloan Center, is an Associate Professor at Boston College Graduate School of Social Work. Matz-Costa is a Research Associate and doctoral candidate in Social Work at Boston College. Besen, a Research Assistant, is studying the impact of work on adult development in Boston College's Applied Psychology Doctoral program.

Portillo, M. (2000). Narrative Inquiry. *Journal of Interior Design*, 26(2), iv-v.

This article introduces the issue of the *Journal of Interior Design (JID)* devoted to the research method, narrative inquiry. Portillo outlines the validity for the "scholarship of stories" and gives a brief summary of each. As the chair of the *JID* Publications Board and the chair of the Department of Interior Design at the University of Florida, Portillo actively advocates for interior design scholarship and education.

Portillo, M., Dohr, J. H. (2000). Creativity and narrative: Eva Maddox associates design beyond space. *Journal of Interior Design*, 26(2), 41-57.

This article combines an investigation of creativity overlaid in a practice setting. Eva Maddox Associates long relationship with DuPont, including the annual re-design of their Merchandise Mart showroom over a twenty year period are investigated through the narrative inquiry method of research. The narrative, even for one who knew the story, brought insights and the interpretation and lessons further validated the method of research. Portillo and Dohr, two interior design scholarly power houses, collaborate on this message of "creative interior design as strategic" (p. 55).

Purinton, J. (1997). *Physical and social attributes influencing mobile teleworkers' sense of place*. Unpublished manuscript. School of Human Ecology, University of Wisconsin, Madison, WI.

This master's thesis served as an example and guide on format, organization and methods. The content of the writings is dated by technology advances, but the structure, vocabulary and rigor informed my studies. Purinton is currently not practicing interior design.

Reis, R. (April 5, 2010). *TP Msg. #1013: Strengths and limitations of case studies*. Retrieved from <http://cgi.stanford.edu/~dept-ctl/cgi-bin/tomprof/posting.php?ID=1013>

Reis is an electrical engineering Professor at Stanford and the editor of this bi-weekly list serve "Tomorrow's Professor." Sponsored by Stanford's Center for Teaching and Learning it offers "desk top faculty development" and interesting insights into the world of education for graduate students. This posting on case studies offered an overview from Sharan B. Merriam (2009) and included an informative graphic Table 3.1, Five Misunderstandings about Case Study Research.

Reissman, C. K. (1993). *Narrative analysis: qualitative research methods series*. Newbury Park, CA: Sage.

This 78 page book, written from a social science perspective succinctly outlines the narrative inquiry process. The detailed methods of analysis from Chapter 3 were not found in any other literature reviewed. Design professionals with an interest in this research method will find this a ready resource and many skilled researchers cite this text in their articles. Until 2000, Reissman was a professor of sociology and social work at Boston College. Her work "studies and compares the narrative accounts that women and men develop to make sense of biographical disruptions (chronic illness, divorce, and infertility)." (BC.edu)

Sanoff, H. (1991). *Visual Research Methods in Design*. New York, NY: Van Nostrand Reinhold.

Widely cited in scholarly and popular texts, this work investigates the link between “available visual information and the applicability of this knowledge,” (p. xi). Sanoff provides techniques and numerous examples for incorporating visual data (photos, graphics, drawings, sketches, diagrams etc...) into research methods; how to find meaning from these images. The work centers on how people relate to and perceive their relationship to their physical surroundings. Sanoff, Professor Emeritus in the School of Architecture at North Carolina State University, teaches courses on social architecture, community participation and design research/methodology. He was one of the founders of the EDRA (Environmental Design Research Association) in 1969; is a member of the editorial board of *The Journal of Architecture and Planning Research*; and has served as an architectural consultant on building and community projects which engage the public in the design process. Sanoff has authored numerous books on participatory design, design education and environments for children.

Tufte, E. (2001). *The visual display of quantitative information*. Cheshire, CT: Graphics Press.

The third in a series of visually breathtaking books on the graphical representation of quantitative information, Tufte suggests that “the most effective way to describe, explore and summarize a set of numbers... is to look at pictures of those numbers. Tufte taught statistical evidence and analytical design and political economy at Yale and Princeton. Now in addition to being on the lecture circuit, his work includes landscape sculpture and video.

Yin, R. K. (2003). *Case study research: Design and methods*. Thousand Oaks, CA: Sage.

This is one of the seminal books on case studies, cited in most scholarly writings on this topic. Yin, with a PhD in brain and cognitive sciences, is the president of COSMOS, an applied research firm in Bethesda, MD. My focus centered on the first two chapters: Introduction and Designing Case Studies. Yin’s audience is “investigators and students who are trying to do case studies as a rigorous method of research” (p. xiv). The book is filled with graphics and charts which illustrate the principles as well as these “BOXs” which provide vignette examples. The first two chapters were completely understandable, but later chapters are increasingly complex.

Zeisel, J. (2006). *Inquiry by design: Environment/behavior/neuroscience in architecture, interiors, landscaping and planning*. New York, NY: Norton.

This book research methods indented for the design audience has been a resource for every topic under investigation. Graphics, photographs, plans, charts and examples specific to design make this text assessable and applicable to my research. Zeisel has been on the faculty at Harvard, Yale and the University of Minnesota in architecture. He lectures internationally on non-pharmacologic treatment for Alzheimer’s disease, particularly the impact of the build environment and the role of art and music. His most recent book, *I’m Still Here* and his forum on living with Alzheimer’s compliment his work with the Hearthstone Alzheimer’s Family Foundation.

Personal Interviews with Thought Leaders

Note: These interviews were conducted by phone and in-person from May 25, 2010 to present. They are catalogued alphabetically by last name.

Bacon, J. (personal communication, June 9, 2010).

Jack held a leadership role on the design of the International Space Station and now retired from the Palo Alto Research Center; currently he is on the lecture circuit discussing his writings on the history of technology and the future of our “green global village.” At an IFMA symposium in Chicago he discussed the exponential effects of silicon technology, the doubling of information, population, oil production, world climate in his non-linear thinking style.

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Brand, J. (personal communication, June 14, 2010).

These two researchers from Haworth's IDEATION group delivered a presentation on *Generation Design, A Cautionary Tale* at NeoCon. The corporate real estate model has conflicting goals: reduction in overhead and a strategic vision for office design. The cubicle promised reduction in real estate costs through density and increased performance with opportunities for communication and collaboration. However, these high density environments have destroyed the ability to concentrate at your workstation. They presented research debunking the multi-tasking millennial myth and on measuring distraction regarding speech privacy using the RASTI speech transmission index. He concluded with "heads down work in the open office is still an issue. Are corporations willing to sacrifice individual performance to support collaboration?"

Budd, C. (personal communications, August 2, 2010).

Meeting at the STUDIOS Architects offices in Washington DC, Christopher discussed how he uses "domains" in narrative inquiry; details about his employee selection process and interviewing techniques and how the firm uses narrative inquiry in their base building projects. With an environmental analysis degree from Cornell, Budd described the first project, Accenture in London, with which they applied the narrative concept. In ascertaining the "values, assumptions and beliefs of an organization, sometimes you have to use whatever means." One example was the use of a video camera in their client's hands, which provided amazing and insightful narrations of complex interiors issues.

Crocker, S. (personal communications, July 28, 2010).

A frequent contributor to writings on gender, generational and cultural differences in the workplace, and one of my original thought leader interviews, our meeting in Peninsula, OH, was the first time we met face to face. As an older Boomer, Sandy is currently engaged in social media and its impact on the personal interactions and the education and work environments.

Dawson, M. (personal communication, June 9, 2010).

Matt is the Global Leader for Procurement, Ernst & Young, and past IFMA Chairman. He spoke at an IFMA Symposium in Chicago on Workplace Strategy. He manages a complex supply chain which supports 145,000 people, housed in 21 million square feet, in 145 countries. He contends that "the business sets the strategy and facilities management owns the process." The challenges of alternative office-ing and the increasingly virtual environment is a collaborative effort owned jointly by IT, HR and CRE. The E&Y practice culture pushes to get employees out of the office, while other cultures, he cited Google, endeavor to have employees stay in the office with the inducements of gourmet meals and pool tables.

Dohr, J. (personal communication, June 28, 2010 and July 29, 2010a)

Serving as mentor and assessor in this research methods investigation, in our first meeting in June at the student center in Madison, Joy focused on frameworks, topic definition, readings and a strategy for the quarter. Suggesting a return to my lit review for scholarly context, the process of identifying research questions began. After significant email exchanges and the submission of mid-term in-progress documents, a conference call in July provided specific comments on my Research Methods Chart and on CM Topic Methods outline.

Jones, E. (personal communication, June 15, 2010).

Eileen is a Principal at Perkins+Will in Chicago and partner with Eva Maddox for 25 years in building their branded interior environments practice. She was part of a NeoCon panel discussion: *Design Does Matter: How leading thinkers are re-envisioning the workplace in these turbulent times*. Her comments on the culture of the workplace, contributes to mentoring for the next generations and the re-purposing of skill sets, build commonalities across generations. She envisions less *work-life balance* and more *work-life integration*.

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Leiserowitz, N. (personal communication, June 14, 2010).

A graduate of the University of Minnesota's interior design program, a Managing Director at Gensler/LA, an advisor to her clients, a good listener and an engaging speaker, Nila and her team from Gensler discussed managing generations at work in a NeoCon presentation, *Today's Workforce, Who's Left and Why it Matters*. She argues that the attributes of high performance employees cut across all generations. A better predictor for performance is not age, but rather other personality skills. All employees want respect. Loyalty to an organization depends on context, not on generation. To retain the best employees, choice and motivation are intrinsic motivators along with financial rewards.

Martinez, C. (personal communication, May 25, 2010).

Global Design Leader for Gensler, Carlos was the speaker for an intimate IIDA event, which began with a tour of the new Gensler offices in former retail space, in a Louis Sullivan building, on State and Madison in Chicago. Acoustics is not an issue, he contends in this open office plan planned for 165, which is currently only have occupied. His argues that low panels actually make it quieter, as people do not self-regulate when surrounded by high panels. The Gensler office has sufficient ambient noise and has been called "active" not noisy. His other salient points discussed the investment companies make for the "life of the lease." He challenges his clients to invest the time during the lease term to manage the use of their space, not just at renewal time. Smart idea for Gensler business.

Martin, R. (personal communication June 14, 2010).

Author of *The Design of Business: Why Design Thinking is the Next Competitive Advantage*, Roger delivered one of the keynotes at NeoCon. Dean of the Business School at the University of Toronto, he co-founded Monitor, the business consulting practice and has worked with major corporations from Steelcase to McDonalds. This lecture was essentially on outline of the *Design of Business*, his most recent book. His concept of a "knowledge funnel," begins where a question passes from broad idea, "mystery," to becoming more formulated "heuristic" to the last "analytical" phase where the idea is ready for implementation. He argues that reliable data only has validity after the passage of time.

Sargent, K. (personal communication, June 13, 2010.)

A Principle at IA Interior Architects in Washington, DC, Kay has been a frequent contributor to my studies of the generations at work. This was my first opportunity to meet her in person, over dinner in Chicago before NeoCon. She is smart, irreverent and not afraid to call it like she sees it with regard to clients and family matters. Her analogy of the office to an efficiency apartment discusses how previously our individual workstations served as efficiency apartments, that were small but we somehow managed to do all we need to get done in them. She argues that the office is now more of a single family house, where there are specific rooms designated for specific tasks. Americans are all about extremes she claims: first everyone had private offices, now everyone is in an open plan. Her work is seeking a more balanced-blended approach.

Tufte, E. (personal communication, July 23, 2010).

Called the "daVinci of data" by the *New York Times*, Tufte conducts one day, six hour, courses around the country on his methods for the visual display of data. He detailed the history of some of his most iconic images pronouncing that we need to be "process driven, rather than content driven." For researchers he advises to watch how original data is collected or measured, to assure the rigor and integrity of the process. Incorporated into his presentation were a Euclidian Geometry book from 1570 and a Galileo text from 1632 in which Galileo showed the first analytical view of the planet Saturn. He's a polished and crusty speaker with no patience for mediocrity. Currently he is working with the Obama Administration to examine the accountability and transparency of stimulus funds.

Glossary

360 Degree: assessment method where feedback is provided to employees from supervisor, 4-8 peers, reporting staff members & customers
www.humanresources.about.com/od.360feedback

Analytical vs. Empirical (Zeisel, 2006)

Analytic questions: true or false

Empirical testing: observation or experimentation, practical experience, not theory

Capstone: final project summarizing learning/research; often multi-disciplinary; often with a public showcase; transition education to practice

Chicago School of Sociology: influential group of sociologists doing research in Chicago in first part of 20th century (concentric-ring diagram origins here)

http://www.owl.net.rice.edu/~soci421/Handouts/chicago_school.pdf

Discursive vs. Non-Discursive

Discursive: “numbers or words” (Dohr, 2010); symbols found in science and ordinary language (Langer, 1942)

Non-discursive: “visual, images, smell, movement” (Dohr, 2010); symbols found in art and other types of human expression (Langer, 1942)

Deductive vs. Inductive Reasoning

Deductive: adherence to some general principle or theory

Inductive: arguing from observation

<http://www.sjsu.edu/depts/itl/graphics/induc/ind-ded.html#1a>

Ethnography: “descriptive study of specific cultures,” (Sanoff, 1991, p. 95), often using photographs or video.

Emic vs. Etic

Emic: analyzing a culture in which you are a part of
(emic verification: interviewees review draft of story to verify)

Etic: analyzing a culture in which you are not a part of

Epistemology: nature of knowledge; “creation and dissemination of knowledge”

<http://plato.stanford.edu/entries/epistemology/>

Three philosophical questions of knowledge: (1) what you know; (2) how you know it; (3) why is it of value (Dohr, 2010)

Evidence Based: “approach that intentionally bases decisions on quantitative and qualitative research” (Nussbaumer, L. (2009). Evidence-based design for interior designers. UK: Berg)

Explicit vs. Tacit Knowledge

Explicit: formal, systematic procedures & manuals

Tacit Knowledge: personal, hard to formalize/share; learned by experience

(Nonaka, I., & Takeuchi, H. (1995). *The Knowledge-creating company*. New York, NY: Oxford.)

Hermeneutic: interpretative or explanatory

Implicit vs. Explicit (<http://wordnetweb.princeton.edu/perl/webwn?s=implicit> & <http://wordnetweb.princeton.edu/perl/webwn?s=explicit>)

Implicit: “implied though not directly expressed”

Explicit: “precisely and clearly expressed, or readily observable”

Inquiry based learning: last part of old adage: “tell me and I forget, show me and I remember, involve me and I understand” illustrates essence

<http://www.thirteen.org/edonline/concept2class/inquiry/index.html>

Jargon: positive-“professional efficient shorthand” terms; negative- “unintelligible talk or writing”

<http://www.uncp.edu/home/canada/work/allam/1914-/language/jargon.htm>

Mapping:

Physical

Mental

Methods vs. Techniques (J. Dohr, personal communication, August 16, 2010)

Methodology: Philosophical nature & assumptions of method

Methods: Research method categories

Techniques: Procedural ways to collect information

Motivators

Extrinsic: external factors; reward and punishment

Contingent: carrot and the stick; if you do something then this other something will happen

Mixed Methods of Research: qualitative and quantitative data, collected “simultaneously or sequentially to best understand research problem” (Creswell 2003, p. 18)

Ontology: nature of being; study of what is; beyond five senses & visible reality

(M. Walsh personal interview, July 20, 2010)

Participant Observation: research technique that “focuses on human interaction and meaning viewed from insiders’ viewpoint...” (Jorgenson, 1989, p. 23).

Pedagogy: “the art, science or profession of teaching (<http://www.merriam-webster.com/dictionary/pedagogy>)

Perry Scheme: 9 phases of learning-cognitive development, (e.g. generational life stage, except for learning) 1-2 Dualism; 3-4 Multiplicity; 5 Relativism/Procedural; 6 Pre-Commitment; 7 Commitment; 8 Challenges to Commitment; 9 Post Commitment; (http://www.uky.edu/TASC/ED/perrys_scheme.php & www.cse.buffalo.edu/~rapaport/perry.positions.html)

Proxemic Behavior: “study how people unconsciously structure space in their daily transactions,” (Sanoff, 1991, p. 126).

Purposes of Research

Exploration: explore a topic; (focus groups) provide better understanding of a topic, test feasibility of more extensive study, and develop methods for subsequent study (Babbie, 2007, p. 88).

Description: “describe situations & events; researcher observes and then describes what observed” (Babbie, 2007, p. 89); (US Census); qualitative studies often descriptive

Explanation: answer what, where, when & how questions

Qualitative Research Methods: “researcher collects open ended, emerging data with the primary intent of developing themes from data,” (Creswell, 2003, p. 18)

Narratives

Phenomenologies

Ethnographies

Grounded Theory Studies

Case Studies

Survey (can also contain qualitative or descriptive info embedded in data) (Dohr, 2010)

Quantitative Research Methods: “collects data on predetermined instruments that yield statistical data” (Creswell, 2003, p. 18).

Survey

Experiment

Research Approaches (Zeisel, 2006, p. 92.)

Diagnostic: “deepen understanding of a setting...offer insights into structure and dynamics of a whole situation,” (Zeisel, p. 93)

Descriptive: “describe and measure as precisely as possible, one or more characteristics and their relationship to a defined problem (Zeisel, p. 92-93)

Theoretical

Action Research Studies

Research Designs: contingent on “way problem is defined, what the investigator wants to know, the nature of the object being studied, previous knowledge...type of results desired,” (Zeisel, 2006, p. 97)

Case Studies: “to describe and diagnose single, internally complex objects...information specific to a particular study object and context” (Zeisel, 2006, p. 98)

Survey: “to find out in detail about phenomenon” (Zeisel, 2006, p. 99); techniques include visual, questionnaires, interviews, counts of physical traces

Large data sets, quantifiable

Experiment: “measure the effects that an action has in a particular situation...Answers the question ‘what difference does it make.’” (Zeisel, 2006, p. 102)

Quasi-Experiment

Research Setting: where investigators will study the problem (Zeisel, 2006)

Natural: “observe people in setting they chose to come to” (Zeisel, 2006, p. 104) appropriate for diagnostic, what actually going on in context

Contrived: “planned and controlled research environments in which one can observe people and gather data from them,” (Zeisel, 2006, p. 106).

Scaling-“assignment of objects to numbers according to a rule” “range allowed” (Dohr, 2010)

Scaling methods: Likert-summative; Thurstone-equal appearing; Guttman-cumulative

<http://www.socialresearchmethods.net/kb/scaling.php>

Scholarly

Scholarly Culture

Scholarly Endeavor

Semantic Relationships: related to scaling, look at for investigating sole work and privacy issues (Dohr, 2010)

Shared Methods

Intersubjectivity: “researchers assess one another’s investigatory methods,” (Zeisel, 2006, p. 121)

Reliability: yield the same results repeatedly; the more a set of results are repeated from same event, the more reliable considered to be (Zeisel, 2006).

Validity: when research findings can be used in making decisions or real action (Zeisel, 2006)

Taxonomy: classifying, creating categories and hierarchies (e.g. Blooms and many others)

Transferability & Generalizability

Transferability

Generalizability

Veracity: “adherence to the truth”

<http://www.thefreedictionary.com/veracity>