Course: EdPsych 795 Introduction to Learning Sciences I Assignment#2: Cognitive Ethnography

The Dialectics and Dialogues of Online Window-Shopping

Instructors: Mitchell Nathan & Julia Gressick Student: Hank Sheng-peng Wu Date: Dec. 3, 2008

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Introduction to the activity

This cognitive ethnography has its setting in a warm cozy room. Generally we need at least one internet-connected computer to examine "how the material and conceptual resources are employed in cultural activity," and to see "how members create the meanings" (Williams in print, p.838). In this case, we have two participants, digitally literate, and two internet-connected computers as the artifacts in the arena. My friend Vincent, who is currently a second-year PhD student in the Electronic Engineering Department, was planning with me for purchasing a new laptop or desktop computer on Black Friday, 2008, while his wife Madeline was holding a camcorder to assist us videotape the whole process. Instead of going to computer stores like Best Buy or Circuit City for checking the real computers and get the advertisements for the survey, we did it in a more convenient and popular way to get the information we want: we surf the net.

Today we certainly don't have to go outside to check if the Black Friday ads are already in our mailboxes. We get electronic flyers even from stores like Walgreens or Menards every week in our email accounts. The price and product information is all available online in their frequently updated website. If you type the keyword "black friday" in the Google

Search bar on your browser, it will lead you to a website (http://www.blackfriday.info/), which serves as a bulletin board for many Black Friday posts, including the news from Best Buy, Circuit City, Amazon, and Newegg.



Figure 1. A physical setting for online window-shopping.

The ecology of shopping has changed drastically after the boom of the internet. Not long ago in 1991, the first really friendly interface to the internet was developed at the University of Minnesota. The university wanted to develop a simple menu system to access files and information on

campus through their local network. The demonstration system was called a "gopher" after the U of Minnesota mascot—the golden gopher (See "A Brief History of the Internet at <u>http://www.walthowe.com/navnet/history.html</u>). From then on, within 20 years, today we have the amazing 1,463,632,361 internet users estimated for June 30, 2008! (See Table 1).



the worldwide internet surfers are Asians, 26.3% Europeans, and 17.0%

North Americans. However, North America has the highest internet

penetration¹ rates in the world (See Table 2).

¹ *penetration: someone's ability to understand quickly and well (from Cambridge Advanced Learner's Dictionary)



We can tell from the bar chart that 73% of North Americans have the

abilities to understand the materials on the internet quickly and well.

Comparing to 59.5% Australians, 48.1% of Europeans, and 15.3% Asians,

about every 3 out of 4 North Americans do use the internet for some

reasons. Namely, internet surfers are certainly densely-populated here in

the US. Therefore, the consequences of online surfing and shopping

gradually become important. Research projects of how the internet interacts with people in their everyday lives may draw the attention of academics to disclose the meanings of the changing behaviors under the influence of the internet. Here in this paper, the principal aim is to reveal how an emerging cognitive activity like online window-shopping could be fully accomplished, and how the satisfaction of knowing may be derived from the design of an interactive system.

Cognition as computation

Before the 1990s, people mostly use their personal experience and the printed out categories and flyers to compare products and prices, but now, more and more people turn to access necessary pieces of information from the online search engines like Google or Yahoo. This surely has shaped a new way of knowing. The internet is like an up-to-date encyclopedia, and you can almost always get the information you want from it. But internet users interact mostly with the machines rather than people. Like what Vincent and I did last Monday night, rather than going to a real store to feel and try the computers I need, and maybe talk to the clerks for technical support, we just sit in a study and use two internet-connected computers to look for the messages we want as well as to talk about our previous experiences and strategies of buying a new computer. In order to get a full

view of what we did, I've made a table of the timeline and list of the topics

of our 5-minute talk:

Table 3. Segments of the online window-shopping and conversation.		
Activity	Focus	Duration(min:sec)
1) Talk about a broken computer	The out-of-date PC components of it	0:00-0:21
2) Talk about the Best Buy Ads, and Black Friday catalogs	Limited budget; Black Friday information online	0:21-0:45
3) Talk about an E-Machine desktop (US\$229) & its components	Move to the Best Buy website and check affordable desktops	0:45-1:17
4) Compare CPUs and their prices: Intel Celeron, AMD, Intel Core 2 Duo	Cheapness is not necessarily a synonym for poor performance	1:17-1:57
5) Talk about the desktop he bought a year ago	US\$ 700 for the desktop with a 22" monitor	1:57-2:33
6) Talk about a criterion: is this computer for games or not?	My concerns: CPU, RAM, and DVD burner	2:33-2:46
7) Intro and demo of the DELL website	Find out the packages that best suit your needs	2:46-4:16
8) The basic idea of the design: all units in the packages are changeable	The prices will vary to the adjustments, but you may pick up "exactly what you want" from this website	4:16-5:16
 Different packages represent different levels of components and prices 	Package prices: 449, 549, 599 and more. Financial concern for the combination	5:16-5:25
10) Compare default operating systems	Linux, Windows XP, Windows Vista, and Mac OS	5:25-5:34

To talk about cognition as computation, I will focus on segments 7-9,

which are the time periods that Vincent urged me to go and check the

"satisfying" official Dell website (<u>http://www.dell.com/</u>) and get to know the

alterable computer packages offered for online services.



The DELL website is an interactive website, because you may change the monitor, CPU, RAM, hard disk, DVD burner, or anything in the package if you are not satisfied with the components in that package. A new price will be shown after the alternation. The whole process is computational because we were having the visual input (info on the screen: items included, performance, and prices) and at the same time the audio input (talks about how to interact with the website). It is enacted by viewing the images and descriptions from the website and comparing with the internal plan in my mind. While we compute subconsciously, we could use some kinesthetic movements like clicking on a button on the webpage as an input, and the system will also compute and output correspondingly. If you select a package, you will know about the components embedded in this combination and also the sum-up price. If the package doesn't fit your plan, whether it is the CPU performance, the size of the hard drive, the capability of creating DVDs, or the price, you can always interact with the designed system and try to find out the combination for you. The operations are three folds. The first one interpersonal/social. Like Vincent taught me how to click on the dialog box to change the items in the selected package. The second fold is intrapersonal/dialectical. The computation happens when you compare your wish list with the tentative combination shown on the computer screen. In a broader sense, the system also does the intra-systematic computation as you change your orders/inputs. The third fold is instrumental: it's the interaction between humans and computers. The outcome is fairly clear: since the price of each component is determined before the interactive website is published, the calculation rules of the system are made by DELL administrators. For the consumer's side, we can choose a package, change its components, compare it with our plans, and decide whether we'd take the offer or not. The instant and direct feedback shown on the screen could be the key factor of Vincent's and my satisfaction for the website. Though the computer will only display the results by operating its internal and preset

rules, when the result matches and resonates with the user's original plan, we'll click ok and make a deal with DELL. Beside Dell, there are still many other online pricing systems. Window-shopping buyers online can always open up another window to see if there is a real bargain somewhere else.



Analytic perspective

The interactive website we've seen like DELL's creates a new experience of online shopping. We can actually "communicate with" the system and see how its representation will vary. If we compare the experience to watching a video, shopping with interactive websites is like

renting DVDs from Blockbuster and selecting the movie that you really want to see. Traditional ads or catalogs, like the ones I've got from Best Buy and Circuit City in my mailbox, offer information of fixed packages, just like turning on the TV and receiving the unchangeable $programs^2$. In Figure 3 we can notice that the computer systems communicate with their internal rules to represent the new price for the new package. Humans communicate with their inner plan or prior knowledge to represent their opinions and make decisions. The social communications make sure the knowledge is transferred and messages delivered. At the same time, the instrumental communications reflect the particular computational process of "people react to the reaction of tools." On traditional ads, the components of the computer packages are all set; on the online interactive websites, the combination is something that can be manipulated. My hypothesis is that this kind of self-regulating system is somehow like a computer game: it makes people view the feedback at the very moment the decisions are made. This could possibly create an instant sense of reliability and satisfaction. Therefore, the DELL website not only provides the important information for the price and effectiveness of the computer sets, but also ensures the customers will come back to the system again and again to play the game. Like Vincent who highly recommended the DELL website and spent much time introducing the website to others, I am convinced that the

² Though the interactive TV programs is becoming known: you can watch your desired programs at your desired time.

interactive element makes the website much more humane and satisfying.

Scientific importance of the study

As we pointed out in the introduction, the internet is becoming part of our daily life for a majority of people today. It is a huge combination of all kinds of data, information, and knowledge. But why are some websites popular, and some don't? From this study, I gradually noticed that feedback is the key element. People want to actively "do something" rather than passively receive information. The internet provides an interface for realtime communication. Traditionally we can only have interpersonal communications with other people. But now, the interactive systems online somehow made the instrumental communication "interpersonal." I presume that people come back to the website again and again because they're satisfied with it, but I think it's hard to measure satisfaction quantitatively. The study reveals that people do use their minds to compute, represent, and communicate. To a controllable and acceptable degree, more interactiveness of the medium is welcomed.

Reflection

While composing this paper, I found it impossible to define

"satisfaction," which is one of the key concepts for me explain why people will come back to visit a website again and again. It seems that I can only describe it qualitatively because it is a subjective feeling. Then I talked to Professor Mitchell Nathan, and he gave me some very practical suggestions like the inter-rater reliability testing technique. Next time if I want to know people's reaction towards an interactive website, I will probably design a questionnaire and collect the responses. Also, I found the word "dialectics" Jean Lave used in her article and the discussions we had in class on its contrast with another word "dialogue" suit the computational processes I wish to explore in this paper. But I am afraid that the findings of this research are sort of obvious. Next time I would like to interview more people, ask what their favorite websites for purchasing a new computer are, and try to reach a firm conclusion.

References

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Lawrence University, Appleton, WI 54912-0599,

robert.f.williams@lawrence.edu