

It's Not What You Think, but How You Think

by Eric Reiss

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For years, I've suspected that the common denominator for people who call themselves "information architects" is our particular way of observing the world around us – our ability to spot patterns where others see noise. For example, by the time I was in the second grade, I was dreaming up screwy new ways to sort my baseball cards (left- or right-handed batting stance, with or without glove, etc.). I've heard similar stories from many other practitioners. I don't think this is an accident – our field seems to attract a certain type of curious individual and we need to make sure it continues to do so.

Exploring Best Practice and Encouraging Innovation

Information architecture, as an academic discipline, is young. So we spend a lot of time discussing certification programs and other formalized educational opportunities. These set up a series of academic hoops through which budding IAs must jump. If they jump successfully, they are awarded academic titles and/or fancy documents – like the blue ribbons given to well-behaved puppies.

Don't get me wrong – such programs are vitally important. (I'm on a couple of advisory boards and have an associate professor title to prove my sincerity.) But two of the most important topics aren't even mentioned in the current IA literature – curiosity and creativity.

Curiosity and Creativity 101

I've observed that virtually all top-notch IAs clearly demonstrate both these abilities. This makes me think that perhaps information architecture isn't a discipline at all – it's a lifestyle. And maybe this is why IA is so difficult to define and to teach.

Creativity can be taught (I'll show you a simple method in just a moment). Curiosity, though, is innate, which means we need to make our educational offerings even more appealing to naturally curious individuals. In other words, we should purposely skew the application population for any formal program and thereby improve the outcome. And let's put GPA on the back burner as an admissions metric.

Most educational programs are designed to introduce students to a broad range of current best practices. But heaven help us if graduates continue doing what we teach them the rest of their lives. Innovation invariably builds on a previous level of best practice. And without innovation, we will never move forward.

Curiosity and the Road to Cultural Literacy

Curiosity is critical. That's because curiosity is usually the first step on the road to cultural literacy. Cultural literacy means you know there are many different, yet perfectly reasonable ways of doing things. The greater your degree of cultural literacy, the easier it is to understand and

accommodate conflicting points of view. You don't have to like these views, but you do have to acknowledge them. And in completely banal terms, it's tough to practice user-centered design if you have no empathy with the user.

The classic image of the "ugly American" stems from this lack of cultural literacy – expecting the rest of the world to act as though everyone was a native of Des Moines. Or Sydney. Or Tokyo. Or Amsterdam. Let's face it, every society has its share of "ugly Americans."

Really good IAs have a tremendous ability to understand new situations. They observe, they learn and they embrace diversity. And curiosity lies at the core. If you've got it, make sure it comes across in your CV.

Teaching Creativity

Curiosity is linked to the ability to wonder, which, in turn, lies at the heart of the creative process. This is because the act of wondering helps us shift from rational to intuitive thought processes. As Oliver Cromwell said, "I beseech you, in the bowels of Christ, think it possible you may be mistaken."

Julian Jaynes was one of the first to write about the two different ways we think in his classic work, *The Origin of Consciousness in the Breakdown of the Bicameral Mind* (Houghton Mifflin, Boston 1976). A few years later, Betty Edwards put these theories into practical use in *Drawing from the Right Side of the Brain* (Penguin Putnam, 1979). My mother, Louise Reiss, researched these patterns for almost 40 years. (*High-yield Skepticism: The Creative Process and Problem-solving*. Xlibris, 2005). In fact, I flunked a cog-psy exam in 1974 because I didn't realize my family's table-talk wasn't common knowledge.

Only when we abandon the rational, learned-in-school,

first-impression of a problem, can we wonder. Through wonder we eventually achieve intuitive recognition of the underlying generic patterns. And it is within these generic patterns that brilliant information architecture frequently hides.

Creativity in a Can

Let me share a bit of the Reiss family table-talk. A visiting college student, Chip, was very upset because he had flunked the "creativity test" in a magazine. The question was, "How many things can you make with an eight-ounce tin can?" Chip moaned he could only remember the candleholders he'd once made at summer camp.

But "remember" is a rational action. This guy needed to see the can's *qualities* – which is what IAs do when they seek out useful categories. My mother gave Chip a shove: the can can be a container, a measure, a shape. Chip got the message: it's shiny, it rolls, it's sharp when cut. It makes noise when drummed.

And since each quality is an ability that has uses, Chip suddenly saw all of the creative possibilities his rational mindset had repressed: "The tin can is a scoop with which I can bail the water out of my sinking lifeboat."

We need to wonder in order to see, which enables us to see past the things we "remember." This is how Betty Edwards gets people to draw; she turns the subject upside down. So rather than drawing a face or a chair, we draw the shapes we see – because we cannot recognize (and thereby remember) the specific thing. This lets us see the generic features and draw them without prejudice. (Are eyes near the top of the face? They are when we "remember." Actually, they're about halfway between the pate and the chin.)

Five Questions, Three of Them Trick

It’s surprisingly easy to get people to think outside the box (box = rationality = got the t-shirt). Let’s take a simple question:

Which seem more alike:

- a. a sphere and a circle
- b. a sphere and a cube

Rationality “remembers” the roundness and will answer a. But in terms of generic qualities and patterns (and in mathematical terms), a three-dimensional form will have more in common with another three-dimensional form. So, intuition (and mathematicians) will answer b.

In the summer of 2004, I invited subscribers to the SIG/IA list to participate in a short survey designed to encourage people to think intuitively. I asked five questions, plus three supplementary questions that would tell me about the respondent’s background – educational background, educational level and whether they practiced strategic or tactical IA. (Back then, I called these “Big IA”

and “Little IA, but these are horribly misleading labels that I now assiduously avoid.) Here are the five questions:

1. Which seem more alike:
 - a. a sphere and a circle
 - b. a sphere and a cube
2. Which one of these items seems least relevant:
 - a. cassette tape
 - b. mirror
 - c. music CD
 - d. LP record
3. Which one of these items seems least relevant:
 - a. cassette tape
 - b. mirror
 - c. music CD
 - d. tin-can lid
4. Which one of these items seems least relevant:
 - a. cassette tape
 - b. mirror
 - c. car hubcap
 - d. tin-can lid
5. Which seem more alike:
 - a. a cube and a square
 - b. a cube and a sphere

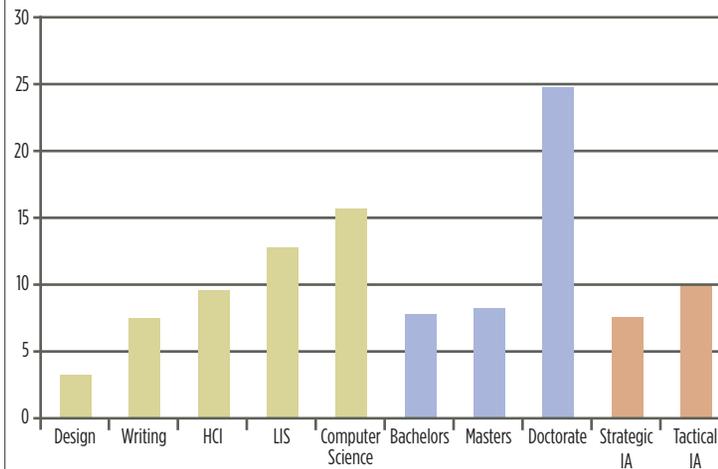
In terms of pattern, questions 1 and 5 are identical. Questions 2 to 4 are designed to move people away from the comfortable, remembered, rational answer (mirror) to one where qualities come into play because people are forced to wonder (round, reflective, sharp edge...“cassette tape” became the odd-man out). It’s kind of like spinning the seeker before starting a game of Blind Man’s Bluff. The results in percent (minus the manipulative mind-benders) are illustrated in Table 1.

TABLE 1. Responses (percent of total), segmented by background and practice area

	Sphere and circle (specific/rational)	Sphere and cube (generic/intuitive)	Cube and square (specific/rational)	Cube and sphere (generic/intuitive)	Sample size
Total respondents	67.5	32.5	59.7	40.3	355
Design	70.6	29.4	67.6	32.4	34
Writing	68.5	31.7	61	39	41
HCI	72	28	62.7	37.3	75
LIS	61.8	32.2	55.3	44.7	76
Computer science	84.6	15.4	69.2	30.8	13
Bachelor’s	66.4	33.6	58.8	41.2	131
Master’s	68.1	31.9	61.1	39.9	180
Doctorate	66.7	33.3	41.7	58.3	24
Strategic IA	64.9	35.1	56.9	43.1	209
Tactical IA	73	27	62.9	37.1	89

Incredibly, three seemingly irrelevant questions got a mean average of 7.8% of the respondents to switch from a rational to an intuitive thought process. And one group demonstrated a whopping 25% shift! Here's a graph showing the percent changes from specific (rational) response to generic (intuitive) response:

Figure 1: Percent changes, segmented by background and practice area



And New Questions Emerge

The results are statistically significant across the board. Perhaps a better scientist than I will design a similar experiment with control populations and larger sample sizes. But in the meantime, several interesting questions emerge.

First, can we learn from this little experiment to help our schools and certification programs teach IA students to see generic patterns more effectively? Second, could it be that the strategic IAs who are now calling themselves “business consultants” need to watch their backs? The hard-core tacticians appear to be more willing and able to think intuitively. Third, if computer geeks are more intuitive than their stereotype suggests, shouldn't we be doing more to recruit them to our ranks? Fourth, what on earth happens during the process of getting a Ph.D. that caused this remarkable 25% swing? And fifth, is this the first quantitative proof that designers really *are* a pain in the butt because of their preconceived notions?

And in Conclusion

Conclusion? Oh, I hope not! ■