



AN EDAC BLOG



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Critically Interpret the Relevant Evidence: What the Heck Does That Mean?

Melissa Piatkowski ◦ September 2016

As a researcher in an architectural firm, step 3 of the EBD (evidence-based design) process was usually the most headache-y phase of the EBD process. Critically interpret relevant evidence? Huh? Now, don't get me wrong, I love a long reading list just like the next nerd, but I rarely had the luxury to sit back and peruse a mountain of literature and consider all the various interpretations. Let's be honest, in the fast-paced-sink-or-swim world of design, when you ask your team "when do you need this?" the answer is always: YESTERDAY. So I needed a system, post-haste. Here is mine, for your reference, thoughts, questions, and even better: additional ideas!

Confirm the Intent of the Evidence

First – do what you can to get on the same page with your team about what you want to get from your EBD approach for this project.

- **What does everyone *expect* the evidence to do?**
 - "Just tell me what the research says"
 - "Research inhibits creativity"

Do any of these sentiments sound familiar? In my experience, these are very common, dangerous sentiments that come from a misunderstanding of EBD. I think the root of the misconception is an idea that the result of step 3 will be something like "Research shows that X works. Design it exactly like X." That is not the purpose or function of EBD (or any other type of evidence-based practice, for that matter). EBD is a process designed to inform and inspire, not to direct or prescribe.

- **What does everyone *want* the evidence to do?**
 - "I am looking for research that proves that X design will work."
 - "We want to include X in the design. Can you find research to back that up?"

Even when the EBD approach is embraced, more often than not the design team or healthcare client has already decided what they want the design to be. When the research on a certain topic happens to align with that idea, great, but when it



doesn't, we tend to throw in the EBD-towel and just fall back on traditional designer-based-design. Well, I say: having a strong feeling that your design is going to work, even if the existing research says otherwise, is a perfect fit to move forward with an EBD process. It's an opportunity to test your hypothesis!

RELEVANCE

The applicability of research based upon a variety of factors, e.g. the date, scope and location of the study and the source of the information.

CREDIBILITY

The quality of being believable and worthy of trust and confidence.

Think about What Matters for Your Project (and What Doesn't)

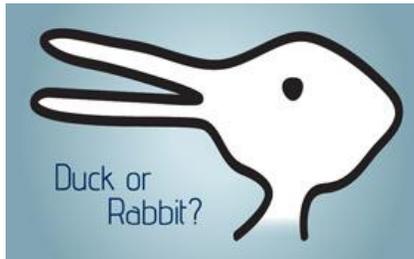
I will be forever indebted to one of my most amazing, brilliant, and favorite mentors – Upali Nanda – for breaking this down. On a nuts and bolts level, this is how to keep your sanity when you embark on step 3. Ask yourself:

- Is it **relevant**?
 - If not: set aside for another project another day.
 - If yes (or maybe), ask:
- Is it **credible**?
 - If not: set aside, it might still inspire a new idea, hypothesis, or research topic
 - If yes (or maybe), now is the time to dig in and apply the information to your design

If you take only one thing away from this blog, I hope it's this: YOU DON'T HAVE TO READ EVERYTHING TO BE A GOOD EBD CHAMPION. But you do need to be smart about what you do read.

Deciding which research is relevant is sometimes easier if you start with what *doesn't matter*. I like to play a little game in my head called “yes... but...” to help me determine how relevant the research is. It goes like this: I read findings that say “This study shows that X design solution will make a significant impact on Z outcomes.” And I say “Yes, but... would it work in my much larger urban hospital with a completely different population, and different operational processes in place?”

Determining credibility is a little trickier. The “yes... but...” game can still be useful. Let's say I skim an abstract and read something like “The use of X design feature increased patient satisfaction by Z percent.” Then I go back and look closer at the methods and find myself saying “yes, but you only measured patient satisfaction with your own totally new survey which was not tested for reliability or validity, and you only had 19 patient participants in the pre-test and 5 participants in the post-test...” Or let's say I read a “study” published by a vendor that says “our researchers found that X product reduced infection rates” ... Yes, but... by how much? How were infection rates measured? Was it a statistically significant reduction? Are your researchers maybe a little biased?



Remember that Interpretation is *Your* Responsibility

On several occasions, I have seen a poorly interpreted write-up of “the evidence” turn into a near catastrophe when it ends up in the hands of someone on the design team or the client who doesn’t have the full story. If you make a statement about research findings that you are not totally sure if you’ve interpreted them correctly, or maybe you’re not sure the researcher interpreted them correctly, consider the implications. Even with all the best intentions, misinterpreted or incomplete findings can lead to inappropriate design-decisions or missed opportunities.

Do not be prescriptive. Make it a habit to write your interpretation in the form of design guidelines or performance goals. Consider the difference between a summary that says:

- × “The bathroom must be located on the headwall of the patient room.”
(Designers run away screaming and cursing research.)

versus

- ✓ “The design of each patient room should provide easy access from the bed to the bathroom to minimize safety risks. Consider a support rail and ways to minimize travel distance as much as possible.” (Designers get the main point and consider how different design options might address the goal to reduce falls.)



Prescriptive vs. Descriptive



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Example of Step 3

Here's an example of how important it is to critically interpret the relevant evidence. A few years ago, I was involved in an eye center renovation. This was a return client; the firm had designed the original facility circa 2000, when the evidence-based design approach was practically unheard of. However, one area of research that had made its way into the mainstream was the benefit of natural light. Numerous studies presented findings that *proved* the benefit of daylight in facility design.

(Are you wondering now, “yes, but... for whom?” GOLD STAR FOR YOU!)

So, the original design included an expansive curtain wall on the southern façade along the waiting areas on the first and second level. Fast forward 10-ish years later, and in the design team's post-occupancy interviews, they found that this design was working quite well in most respects. But... there was one big problem: all of that natural light was causing patients significant discomfort because many visual impairments are associated with light sensitivity. Even patients with normal sight were uncomfortable because they had their eyes dilated for their routine exam. This critical factor of *relevance* of the research had been missed in the original interpretation.

The design team took this lesson to heart and the renovated design includes centrally-located waiting areas, providing a gradual reduction in the level of light that patients experience as they travel into the building. And so as to not throw out the baby with the bathwater, the new plan is organized to maintain natural light in staff offices and break rooms.

Ok, I Lied.

I'd love to tell you that I figured this system out early on and used it several times and brag how perfect it is, but that would be a bold-faced lie. I haven't actually used this full system even once. This is a Frankenstein of lessons learned and scenarios I have imagined if I could go back in time. Hopefully for your benefit but more than likely you will run into your own unique obstacles that no one could have predicted, and your process will look very different. Which is fine. It is a process of continuous improvement and as long as you have been critical and pulled out the research that supports the best possible outcomes for your particular project, you can proudly check “Step 3” off the list.