

Tip #55 – Thinking critically about using statistics

This tip is from a blog called “The Information Literacy Land of Confusion” <http://www.information-literacy.net/> which has much of value. The most current post is about using zombies to teach information literacy. But because our students are hopefully not so into zombies as the traditional-aged students, here is a post without any zombies that I thought made a very useful point in an entertaining manner. If you want to take this lesson a little further, ask the students to find out if the statistic 1 in 150 is still in use, and if not, what is the statistic and what evidence is given for it?

Monday, April 14, 2008

Thinking Critically About Statistics

(This is a guest post by Julie Lorenzen.)

This past winter an idea I had fell short of being accepted during a meeting of my autism awareness committee on the campus of Central Michigan University. My idea was to create bulletin boards that veered away from statistics and focused on individuals instead because I think that advocates in the United States rely too much on numbers.

I was visualizing outlines of hands or maybe stars that featured respective traits of a variety of local individuals (no names included) to emphasize that people on the spectrum do not fit into any particular mold. I like to think of people as snowflakes with no two individuals being exactly alike (this is not exclusive to just the folks on the spectrum).

However, another person on the committee with a bit more clout than me had a different idea. This committee member wanted CMU students to create the boards using stats. I was disappointed, but the diplomat in me knows to choose battles wisely. So I backed down as I had plenty of other ideas for activities that could be put into action with little conflict.

In the end the idea of creating the bulletin boards fell through for many different reasons, but we did end up with almost two dozen posters created by college students. Ninety percent or more featured the statistics related to autism. A few of them had this stat: Autism occurs in 1 in 150 births. I knew that statistic came from the Center of Disease Control, but always wondered how it came into being. Now I have better knowledge of the origin of that statistic thanks to the author of the blog, translating autism (<http://www.translatingautism.com/2008/04/autism-rates-in-usa-where-did-1-in-150.html>). The author recently wrote a great post that constructively criticizes the use of the 1 in 150 statistic.

Here is a summation of the author’s thoughts:

“Things to keep in mind:

- This report was based ONLY on children born in 1994. Thus it is possible that the rates could not apply to other cohorts.
- The differences in prevalence rates between States with and without access to educational records could suggest that 1) the overall rate is an underestimate because some sites only had access to health

records, or 2) that the overall rate is an overestimate because some sites included cases ascertained from educational records which may be less reliable than health records.

- This rate of 1 in 150 does not refer to new cases of autism, or total cases in the population. It only speaks to cases among 8 year old children in 2002.”

My thoughts on the use of statistics: I don't know if I'll ever be able to convince fellow committee members to veer away from using statistics. The use of stats to back a cause (not just autism!) seems to be ingrained in the culture of advocacy. Additionally, the 1 in 150 statistic is the first one featured on the facts and statistics site for Autism Society of America (<http://www.autism-society.org/site/PageServer?pagename=FactsStats>), an organization with which my group is affiliated.

The bottom line is that this statistic takes center stage in terms of autism awareness. It's going to be difficult to get certain key people to admit that this stat may not actually reflect reality. Some people do not like to admit that they are incorrect. I'm not certain, but I'm suspecting it may be awhile before the use of critical thinking replaces the liberal use of statistics in regard to advocacy.

THE END